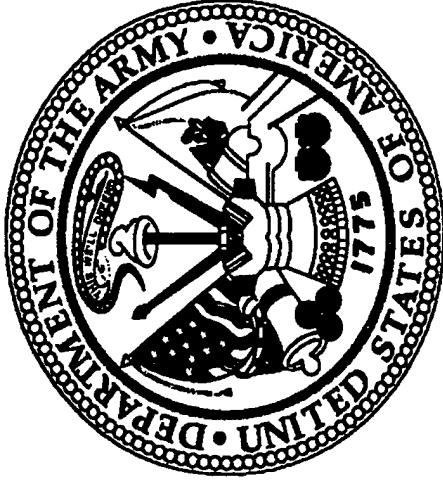


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# DEPARTMENT OF THE ARMY

## Procurement Programs



DEFENSE SECRETARY A  
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Committee Staff Procurement Backup Book  
FY 1998 / FY 1999 Budget Estimate

### WEAPONS AND TRACKED COMBAT VEHICLES

APPROPRIATION

February 1997

~~FOR OFFICIAL USE ONLY~~

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## Index for WEAPONS AND TRACKED COMBAT VEHICLES

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Activity: 1. \*\*TRACKED COMBAT VEHICLES\*\*

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)									
				FY 96		FY 97		FY 98		FY 99			
				QTY (5)	COST (6)	QTY (7)	COST (8)	QTY (9)	COST (10)	QTY (11)	COST (12)		
(1)	(2)	(3)	(4)										
	<b>**TRACKED COMBAT VEHICLES**</b>												
1	ABRAMS TRNG DEV MOD (GA5208)				3,017		3,181		2,222				6,440
2	BRADLEY BASE SUSTAINMENT (G80718)	B			133,869		234,774		125,591				342,423
3	BRADLEY FVS TRAINING DEVICES (G20900)	A					572		1,417				9,544
4	HAB TRAINING DEVICES (G84600)												398
5	BRADLEY FVS TRAINING DEVICES (MOD) (GZ2500)	A			1,813		851						2,143
6	FIELD ARTILLERY AMMUNITION SUPPORT VEH (G80100)	A		48	49,988	48	64,140						
7	ARMORED COMBAT EARTHMOVER (G82303)	A				54	50,952						
8	ABRAMS TANK TRAINING DEVICES (GB1300)	A			6,133		12,590		13,351				13,850
9	M1 ABRAMS TANK SERIES (MYP) (G82917)	A			2,904								
10	COMMAND & CONTROL VEHICLE (G84200)	B	6,179,400			5	48,939	5	30,897	14			62,681
	SUB-ACTIVITY TOTAL				----- 197,724		415,999		173,478				437,479
	<b>**MODIFICATION OF TRACKED COMBAT VEHICLES**</b>												
11	CARRIER, MOD (GB1930)	A			47,958		42,988		20,244				34,021
12	FIST VEHICLE (MOD) (GZZ300)	B					14,656						16,169
13	BFVS SERIES (MOD) (GZZ400)	A			93,101		119,037		61,232				46,640

DEPARTMENT OF THE ARMY  
FY 98/99 PROCUREMENT PROGRAM

EXHIBIT P-1  
February 1997

Appropriation: \*\*WEAPONS & TRACKED COMBAT VEHICLES\*\*

Activity: 1. \*\*TRACKED COMBAT VEHICLES\*\*

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)							
				FY 96		FY 97		FY 98		FY 99	
				QTY	COST	QTY	COST	QTY	COST	QTY	COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
14	HOWITZER, MED SP FT 155MM M109A6 (MOD) (GA0400)	A			281,986		105,890		18,706		11,538
15	HOWITZER, MED SP FT 155MM M109A5 (MOD) (GA0401)	A			126		130				
16	FAASV PIP TO FLEET (GA8010)	A			6,434		13,814		1,922		438
17	IMPROVED RECOVERY VEHICLE (M88 MOD) (GA0570)	B			54,363		55,687		28,601		40,229
18	BREACHER SYSTEM (MOD) (GZ3200)	B									10,444
19	HEAVY ASSAULT BRIDGE (HAB) SYS (MOD) (GZ3250)	B			14,611		51,322		42,205		51,950
20	M1 ABRAMS TANK (MOD) (GA0700)	A			50,094		63,157		29,843		30,070
21	ABRAMS UPGRADE PROGRAM (GA0750) LESS: ADVANCE PROCUREMENT (PY)	A			320,515 -52,601 ----- 267,914		502,004 -297,218 ----- 204,786		587,714 -259,086 ----- 328,628		686,521 -266,228 ----- 420,293
22	ABRAMS UPGRADE PROGRAM (GA0750) ADVANCE PROCUREMENT (CY)				297,218		259,086		266,228		270,691
23	MODIFICATIONS LESS THAN \$2.0M (TCV-WTCV) (GA0925)				562		1,049		1,030		
	SUB-ACTIVITY TOTAL				1,114,367		916,946		813,295		932,483
	**SUPPORT EQUIPMENT AND FACILITIES**										
24	ITEMS LESS THAN \$2.0M (TCV-WTCV) (GL3100)				147		141		139		137

Appropriation: \*\*WEAPONS & TRACKED COMBAT VEHICLES\*\*

Activity: 1. \*\*TRACKED COMBAT VEHICLES\*\*

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)											
				FY 96			FY 97			FY 98			FY 99		
				QTY	COST		QTY	COST		QTY	COST		QTY	COST	
				(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)				
(1)	(2)	(3)	(4)												
25	PRODUCTION BASE SUPPORT (TCV-WTCV) (GA0050)				5,323		9,319		8,942				9,150		
26	REGIONAL MAINTENANCE TRAINING SITES-EQUIP (GA2449)				1,405		1,367								
	SUB-ACTIVITY TOTAL				6,875		10,827		9,081				9,287		
	ACTIVITY TOTAL				1,318,966		1,343,772		995,854				1,379,249		

Appropriation: \*\*WEAPONS & TRACKED COMBAT VEHICLES\*\*

Activity: 2. \*\*WEAPONS AND OTHER COMBAT VEHICLES

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)									
				FY 96		FY 97		FY 98		FY 99			
				QTY (5)	COST (6)	QTY (7)	COST (8)	QTY (9)	COST (10)	QTY (11)	COST (12)		
(1)	(2)	(3)	(4)										
**WEAPONS AND OTHER COMBAT VEHICLES**													
27	PERSONAL DEFENSE WEAPON (ROLL) (GN0003)	A		4,100	1,936								
28	ARMOR MACHINE GUN, 7.62MM M240 SERIES (G13000)	A				2,034	19,981					673	6,967
29	MACHINE GUN, 5.56MM (SAW) (G12900)	A	13,716	9,430	27,585	3,802	12,092	406	5,569	1,570			4,887
30	GRENADE LAUNCHER, AUTO, 40MM, MK19-3 (G13400)	A		1,500	32,812	2,150	33,168			720			13,075
31	MORTAR, 120MM (G02100)	A			2,911								
32	M16 RIFLE (G14900)	A	450	31,056	13,067	15,583	6,546	11,297	5,089	21,077			9,152
33	5.56 CARBINE M4 (G14904)	A	679	9,785	6,292	10,603	6,546	7,484	5,089	15,352			9,568
SUB-ACTIVITY TOTAL					84,603		78,333		15,747				43,649
**MODIFICATION OF WEAPONS AND OTHER COMBAT VEHICLES**													
34	M4 CARBINE MODS (GB3007)	A			900		2,114		2,152				5,318
35	MEDIUM MACHINE GUNS (MODS) (GZ1300)	A			6,292								
36	M119 MODIFICATIONS (GC0401)	A							4,977				4,969
37	M16 RIFLE MODS (GZ2800)	A			2,751		5,526		7,603				7,060

**Activity: 2. \*\*WEAPONS AND OTHER COMBAT VEHICLE:**

P-1 Page 5 of 6

**Activity: 3. \*\*SPARES AND REPAIR PARTS\*\***

LINE NO.	ITEM NOMENCLATURE	ID	(DOLS) FY 98 UNIT COST	(THOUSANDS OF DOLLARS)									
				FY 96		FY 97		FY 98		FY 99			
				QTY	COST	QTY	COST	QTY	COST	QTY	COST		
				(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
(1)	(2)	(3)	(4)										
	<b>**SPARES AND REPAIR PARTS**</b>												
43	SPARES AND REPAIR PARTS (WTCV) (GE0150)				25,279		20,280		20,622		14,413		
	SUB-ACTIVITY TOTAL				25,279		20,280		20,622		14,413		
	ACTIVITY TOTAL				25,279		20,280		20,622		14,413		
	APPROPRIATION TOTAL				1,454,731		1,468,455		1,065,707		1,475,106		

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Tracked Combat Vehicles					P-1 ITEM NOMENCLATURE					ABRAMS TRNG DEV MOD (GA5208)
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY	0	0	0	0	0	0	0	0		
COST (in millions)	3.0	3.2	2.2	6.4	2.8	5.7	5.9	6.0		

**DESCRIPTION:** Funding provided will accomplish modifications to Abrams Training Devices required as a result of changes to the Abrams tanks or tank training requirements. These changes are hardware and software modifications to existing equipment to keep simulators abreast of developments in the Abrams Tank System.

**JUSTIFICATION:** The program reflected here-in is structured to meet needs validated by the Abrams user community. Degradation of tank training will occur if these modifications are delayed or deleted. The intended sites for the Conduct of Fire Trainer (COFT) M60A3 to M1 Conversions are for the National Guard units. The average expected gunner and commander throughput per year for the modified COFT is 3,016. The Conduct of Fire Trainer (COFT) M1 to M1A1, Optical Improvement (OIP) and Armament Enhancement Initiative (AEI) modifications are for units at FORSCOM, USAREUR, TRADOC, and National Guard.





MODIFICATION INSTALLATION SUMMARY									
									Date
									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
<i>No P3a Set for modification</i>									
ABRAMS TRNG DEV MOD									
GA5208									
M60A3 to M1 Conversion Kits	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OIP Modification to M1A1 COFTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AEI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1 to M1A1 Modification Kits	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Conduct of Fire Trainer (COFT) Image Generator (IG) and Computer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AGTS/SEP MOD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tank Driver Trainer Mod (M1A2 SEP Upgrade)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Close Combat Tactical Trainer (CCTT)/SEP Mod	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maintenance Training System (MTS) SEP Mod	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

INDIVIDUAL MODIFICATION		Date	February 1987
MODIFICATION TITLE:	M60A3 to M1 Conversion Kits 1-03-05-4430		
MODELS OF SYSTEMS AFFECTED:	M60A3 COFTs.		
DESCRIPTION / JUSTIFICATION:			
<p>The Conduct of Fire Trainer (COFT) provides the ready capability for precision tank gunnery training while reducing the O&amp;S costs associated with ammunition consumption. The COFT is configured to the tank system it supports.</p> <p>In support of the Abrams fielding schedule, the conversion of M60A3 COFTs to M1 COFTs is required to meet the Army's new force structure. The structure has changed to make the M60 tank and training devices obsolete. This situation establishes an urgent requirement to convert the M60A3 COFTs to M1 configuration.</p> <p>Without this modification, one of the following most likely will occur: 1) Negative training results from using outdated COFTs; 2) In lieu of using</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
Critical Design Review:	N/A		
Contractor Test and Evaluation:	4Q95	1Q96	
Development Test and Evaluation:	N/A		
Initial Operational Test and Evaluation:	4Q95	1Q96	
IPR Production Decision	N/A		
TDP Available:	N/A		

INDIVIDUAL MODIFICATION															Date		February 1997		
MODIFICATION TITLE (Cont):															M60A3 to M1 Conversion Kits 1-03-05-4430				
FINANCIAL PLAN: (\$ In Millions)																			
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																			
PROCUREMENT																			
20	3.8																	20	3.8
	1.6																		1.6
Installation Kits Nonrecurring Equipment																			
Equipment Nonrecurring																			
Engineering Change Orders																			
Data																			
Training Equipment																			
Support Equipment																			
Other																			
Interim Contractor Support																			
Installation of Hardware																			
FY 1996 & Prior Eqpt -- Kits																			
FY 1997 Eqpt -- Kits																			
FY 1998 Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- kits																			
FY 2001 Eqpt -- kits																			
FY 2002 Eqpt -- kits																			
FY 2003 Eqpt -- kits																			
(FY(TC) Eqpt (xx kits)																			
Total Installation Cost																			
	5.4																		5.4
Total Procurement Cost																			
METHOD OF IMPLEMENTATION: Contractor															ADMINISTRATIVE LEADTIME: 1 Months		PRODUCTION LEADTIME: 12 Months		
Contract Dates: FY 1997:															FY 1998:		FY 1999:		
Delivery Date: FY 1997:															FY 1998:		FY 1999:		

Installation Schedule: M60A3 to M1 Conversion Kits 1-03-05-4430												
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	Date	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	
<b>Inputs</b>												
FY 1996 & Prior	16	4										20
FY 1997												
FY 1998												
FY 1999												
<b>Outputs</b>												
FY 1996 & Prior	13	2	4	1								20
FY 1997												
FY 1998												
FY 1999												
<b>Inputs</b>												
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4
FY 2001												
FY 2002												
FY 2003												
<b>Outputs</b>												
FY 2000												
FY 2001												
FY 2002												
FY 2003												
<b>Remarks:</b>	Installation costs are included within the hardware contract and cannot be broken out.											

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	OIP Modification to M1A1 COFTS 1-90-05-7877		
MODELS OF SYSTEMS AFFECTED:	M1A1 UCFTs.		
DESCRIPTION / JUSTIFICATION:	<p>This modification is required because the tank's optics now include filters to protect the crew from eye damage resulting from exposure to lasers. To accommodate the improved optics, a new switch, which induces the eye safe laser filters, has been added and the switch used to change the gunner's sight from high to low power has been redesigned and relocated. Training with the Conduct of Fire Trainers (COFTs) will enable the gunners and commanders to quickly find and use the correct switches by touch.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
Critical Design Review:	N/A		
Contractor Test and Evaluation:	N/A		
Development Test and Evaluation:	1Q96	1Q96	
Initial Operational Test and Evaluation:	N/A		
IPR Production Decision	2Q96	3Q96	
TDP Available:	N/A		

INDIVIDUAL MODIFICATION																				
MODIFICATION TITLE (Contl): OIP Modification to M1A1 COFTS 1-90-05-7877																				
FINANCIAL PLAN: (\$ In Millions)																				
	FY 1996 Qty	FY 1996 \$	FY 1997 Qty	FY 1997 \$	FY 1998 Qty	FY 1998 \$	FY 1999 Qty	FY 1999 \$	FY 2000 Qty	FY 2000 \$	FY 2001 Qty	FY 2001 \$	FY 2002 Qty	FY 2002 \$	FY 2003 Qty	FY 2003 \$	TC Qty	TC \$	TOTAL Qty	TOTAL \$
RDT&E																				
PROCUREMENT																				
Kit Quantity	95	1.5																	95	1.5
Installation Kits		0.6																		0.6
Installation Kits Nonrecurring Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost																				
Total Procurement Cost		2.1																		2.1

METHOD OF IMPLEMENTATION: Contractor  
 Contract Dates: FY 1997:      FY 1998:      FY 1999:  
 Delivery Date:      FY 1997:      FY 1998:      FY 1999:

Installation Schedule: OIP Modification to M1A1 COFTS 1-90-05-7877													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	Total
Inputs													
FY 1996 & Prior	20		20		20	20	15						95
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior			20	20	10	10	20	15					95
FY 1997													
FY 1998													
FY 1999													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	AEI 1-93-05-4452		
MODELS OF SYSTEMS AFFECTED:	M1A1 UCRAFTs.		
DESCRIPTION / JUSTIFICATION:	<p>The Armament Enhancement Initiative (AEI), 120mm tank round modification is required to change the configuration of the M1A1 COFT to the latest configuration of the tank. Addition of new rounds causes switch changes and additional sight reticles in the tank. These changes affect training and can only be provided in the COFT. The COFT will require both hardware and software changes to provide this capability. A key benefit of training with the COFT is in training gunners and commanders on the capability of new rounds with special features without having to fire the actual rounds. Using the existing COFTs without this capability results in severe negative training. The COFT must maintain the same configuration as the tank system it supports.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
Critical Design Review:	N/A		
Contractor Test and Evaluation:	1Q96	1Q96	
Development Test and Evaluation:	N/A		
Initial Operational Test and Evaluation:	2Q96	3Q96	
IPR Production Decision	N/A		
TDP Available:	N/A		





Installation Schedule: AEI 1-93-05-4452													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	Total
Inputs													
FY 1996 & Prior	20		20		20	20	20	20					100
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior	20	20	10	10	20	20							100
FY 1997													
FY 1998													
FY 1999													
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4
FY 2001													
FY 2002													
FY 2003													
Inputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Remarks:													
Installation costs are included within the hardware contract and cannot be broken out.													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		M1 to M1A1 Modification Kits 1-92-06-4419	
MODELS OF SYSTEMS AFFECTED:		M1 COFTs	
DESCRIPTION / JUSTIFICATION:			
<p>The Conduct of Fire Trainer (COFT) provides the ready capability for precision tank gunnery training while reducing the O&amp;S costs associated with ammunition consumption. The COFT is configured to the tank system it supports.</p> <p>In support of the Abrams fielding schedule, the M1 to M1A1 COFT modification is required to meet the Army's new force structure. All active army divisions, as well as selected National Guard units receiving the M1A1 tank have or will receive the modification. Additionally, the Armor School requires all M1A1 ICOFTs (four COFT crew stations), except for one standard M1 ICOFT and one linked M1 ICOFT used to provide Reserve Component training, be modified (hardware and software) to support basic and advance training of gunners and commanders. This situation establishes a requirement to upgrade the Armor School's M1 ICOFTs to the M1A1 capability.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
		PLANNED	ACCOMPLISHED
Preliminary Design Review:		N/A	
Critical Design Review:		N/A	
Contractor Test and Evaluation:		4Q97	
Development Test and Evaluation:		N/A	
Initial Operational Test and Evaluation:		1Q98	
IPR Production Decision		N/A	
TDP Available:		N/A	

INDIVIDUAL MODIFICATION															Date		February 1997			
MODIFICATION TITLE (Cont):															M1 to M1A1 Modification Kits 1-92-06-4419					
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity	18	1.2																	18	1.2
Installation Kits																				1.0
Installation Kits Nonrecurring Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost																				
Total Procurement Cost		2.2																		2.2

METHOD OF IMPLEMENTATION: Contractor	ADMINISTRATIVE LEADTIME:	9	Months	PRODUCTION LEADTIME:	18	Months
Contract Dates:	FY 1997:			FY 1998:		
Delivery Date:	FY 1997:			FY 1998:		

Installation Schedule: M1 to M1A1 Modification Kits 1-92-06-4419													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2005	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior					4		4		4				18
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior					4		4		4				18
FY 1997													
FY 1998													
FY 1999													
Inputs													
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Remarks:													
Installation costs are included within the hardware contract and cannot be broken out.													
Funds are for software modifications to provide ICOfT capability to M1A1 UCOfTs and MCOFTs within the reserve components.													

INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE:	February 1997	
Conduct of Fire Trainer (COFT) Image Generator (IG) and Computer Upgrade TBD1		
MODELS OF SYSTEMS AFFECTED:	M1 and M1A1 COFTs	
DESCRIPTION / JUSTIFICATION:		
<p>The Image Generator (IG) and computer subsystems that are presently being used in the COFTs are approaching obsolescence. It is becoming more difficult to obtain parts for these IGs since they are of the early 1980's design. Sustainability is becoming a major issue as repair and replacement parts are becoming more expensive or entirely not available on the commercial market. Likewise, the software designed to run on these components is also difficult to sustain. The goal is to obtain a replacement IG and computer that will provide for cheaper and easier software changes and more cost effective parts and maintenance. This will position the COFT fleet to support tank units and institutions beyond the year 2000.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		
Preliminary Design Review:	PLANNED	ACCOMPLISHED
Critical Design Review:	N/A	
Contractor Test and Evaluation:	N/A	
Development Test and Evaluation:	3Q98	
Initial Operational Test and Evaluation:	N/A	
IPR Production Decision	4Q98	
TDP Available:	N/A	







INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		AGTS/SEP MOD TBD2	
MODELS OF SYSTEMS AFFECTED:		M1A2 Advanced Gunnery Training System	
DESCRIPTION / JUSTIFICATION:			
<p>AR 350-38 requires Program Managers to program and budget funds to support changes to fielded training devices resulting from changes or modifications to the system they support. This funding will modify existing M1A2 Advanced Gunnery Training Simulators to represent the most recent SEP changes to the M1A2.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Examples	PLANNED	ACCOMPLISHED	
Preliminary Design Review:	3Q01		
Critical Design Review:	3Q02		
Contractor Test and Evaluation:	3Q03		
Development Test and Evaluation:	3Q03		
Initial Operational Test and Evaluation:	4Q03		
IPR Production Decision	4Q03		
TDP Available:	4Q03		





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Tank Driver Trainer Mod (M1A2 SEP Upgrade) TBD3			
MODELS OF SYSTEMS AFFECTED: M1A1 Tank Driver Trainer			
DESCRIPTION / JUSTIFICATION: <p>The Tank Driver Trainer (TDT) simulates actual tank performance for beginner and transitioning drivers. It provides a range of motion and simulated environments, terrain and situations which are difficult or impossible for the driver to experience in normal training or operations. The M1A2 driver's compartment and tasks are significantly different from the M1A1. This project upgrades existing M1A1 Tank Driver Trainers at the Armor School to match projected throughput of students as more M1A2s enter the field.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
Critical Design Review:	N/A		
Contractor Test and Evaluation:	N/A		
Development Test and Evaluation:	3Q00		
Initial Operational Test and Evaluation:	N/A		
IPR Production Decision	4Q00		
TDP Available:	N/A		



Installation Schedule: Tank Driver Trainer Mod (M1A2 SEP Upgrade) TBD3												
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		February 1997		
& Prior		1		2		3		4		FY 2001		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
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INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Close Combat Tactical Trainer (CCTT)/SEP Mod TBD4	
MODELS OF SYSTEMS AFFECTED:		Close Combat Tactical Trainer (CCTT)	
DESCRIPTION / JUSTIFICATION:		<p>AR 350-38 requires Program Manager to program and budget funds to support changes to fielded training devices resulting from changes or modifications to the system they support. This funding will modify existing Close Combat Tactical Trainer modules to represent the most recent SEP changes to the M1A2.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Examples	Preliminary Design Review:	3Q01	
	Critical Design Review:	4Q01	
	Contractor Test and Evaluation:	3Q02	
	Development Test and Evaluation:	3Q02	
	Initial Operational Test and Evaluation:	4Q02	
	IPR Production Decision	4Q02	
	TDP Available:	4Q02	







INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Maintenance Training System (MTS) SEP Mod TBD5	
MODELS OF SYSTEMS AFFECTED:		M1A2 Maintenance Trainers	
DESCRIPTION / JUSTIFICATION:			
AR 350-38 requires Program Managers to program and budget funds to support changes to fielded training devices resulting from changes or modifications to the system they support. This funding will modify existing M1A2 Maintenance Training Systems to represent the most recent SEP changes to the M1A2.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Examples		PLANNED	ACCOMPLISHED
Preliminary Design Review:		3Q00	
Critical Design Review:		3Q01	
Contractor Test and Evaluation:		3Q01	
Development Test and Evaluation:		3Q01	
Initial Operational Test and Evaluation:		4Q01	
IPR Production Decision		4Q01	
TDP Available:		4Q01	



Installation Schedule: Maintenance Training System (MTS) SEP Mod TBD5												
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		February 1997		
& Prior		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
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3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
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3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3		4		
4		1		2		3		4		1		
1		2		3		4		1		2		
3		4		1		2		3				

BUDGET ITEM JUSTIFICATION SHEET												DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE										BRADLEY BASE SUSTAINMENT (380718)	
PROCUREMENT OF WPNS & TRKD CMBT VEHs / Tracked Combat Vehicles		Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program	
QUANTITY		414	102	80	18	78	122	154	128	131	936	2163	
COST (in millions)		456.2	133.9	234.8	125.6	342.4	370.0	452.3	376.2	388.9	2782.9	5663.2	
Initial Spares (in millions)		12.5	5.2	9.3	0.3	1.5	1.9	1.4	4.1	4.1	57.2	97.5	
Total (in millions)		468.7	139.1	244.1	125.9	343.9	371.9	453.7	380.3	393.0	2840.1	5760.7	
Unit Cost (in millions)		1.1	1.4	3.1	7.0	4.4	3.0	2.9	3.0	3.0	3.0	2.7	
<p><b>DESCRIPTION:</b> The Bradley Base Sustainment Program initiated a program to upgrade first generation Bradleys(A0) into the A2 configuration and bridge the production gap until the introduction of the A3 upgrade vehicles. FY98 marks the second production year of the A3 configuration. The upgraded A3 Bradley Fighting Vehicle will facilitate enhanced command and control, provide greater lethality, provide mobile protected transport of an infantry squad to critical points on the battlefield, and perform cavalry scout and other claimant missions in the 21 st century. Upgrades in this program include advanced technology in the areas of command and control, lethality, survivability, mobility, and sustainability required to defeat current and future threat forces while remaining operationally compatible with the main battle tank.</p> <p><b>JUSTIFICATION:</b> The FY98 Budget will provide the second year of LRIP for the A3 upgrade program. The M2A3 upgrade program will provide digital communications and target acquisition upgrades required to fight as a member of the combined arms team. These vehicles will be remanufactured in the prime contractor's plant to preserve the critical skills and vendor base to allow for future modernization.</p> <p>Quantities are all A0-A2's in FY96 and prior, 45 A0-A2 Linebackers and 35 A2-A3's in FY97, and A3's thereafter.</p>													

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				B. WEAPON BRADLEY BASE SUSTAINMENT (G80718)				C. MANUFACTURER NAME		D. DATE February 1997	
WTCV Cost Elements		FY 96		FY 97		FY 98		FY 99					
ID	CD	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
BRADLEY BASE SUSTAINMENT (M2A2)		133869	105	1275	62478	35	4923	7266	18	6574	14014	78	4210
BRADLEY BASE SUSTAINMENT (M2A3)					172296			118325			328409		
TOTAL													

WTCV Cost Analysis			A. APN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				B. WEAPON BRADLEY BASE SUSTAINMENT (M2A2/) (G80716)				C. MANUFACTURER NAME		D. DATE February 1997	
WTCV Cost Elements			FY 96		FY 97		FY 98		FY 99					
ID	CD		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
1. VEHICLE			61559	105	586	23059	45	512						
2. T2SS			9609	75	128									
3. Engine			4965	105	47	2250	45	50						
4. Track			1935	105	18	829	45	18						
5. Other GFE (Buy)			7567	105	72	2620	45	58						
6. Other GFE (Reman)			10926	105	104	4992	45	111						
7. STINGER Kits						17270	93	186						
SUBTOTAL			96561			51020								
8. Govt Test & Eval			651									1880		
9. Engineering-Contractor			16093			3280			4100			4420		
10. Engineering-Government			4303											
11. Project Management Admin			1754			7478			3166			7714		
12. Fielding			6965											
13. Reimbursable Matrix Supt			1933											
SUBTOTAL			31699			10758			7266			14014		
13. PSE			5609			700								
TOTAL			133869			62478			7266			14014		

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
B. APPROPRIATION / BUDGET ACTIVITY		C. P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles		BRADLEY BASE SUSTAINMENT (M2A2) (G80716)									
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV RECD	IF YES W/A	
1. VEHICLE											
FY XX											
FY 96											
FY 97											
2. T2SS											
FY XX											
FY 96											
3. Engine											
FY XX											
FY 96											
FY 97											
4. Track											
FY XX											
FY 96											
FY 97											
	UDLP, York PA	SS/FFP	TACOM	Jan-96 Apr-97	May-97 Jun-98	105 45	586 512	YES YES	NO NO		
	HAC, LaGrange GA	SS/FFP	AMCOM	Feb-96	Mar-97	75	128	YES	NO		
	Cummins, Columbus, IN	SS/FFP	TACOM	Jan-96 Apr-97	Mar-96 Feb-98	105 45	47 50	YES YES	NO NO		
	Goodyear, Akron OH TBD	C/FFP	TACOM	Feb-96 Apr-97	Feb-97 Feb-98	105 45	18 18	YES YES	NO NO		
REMARKS:											







WTCV Cost Analysis		A. APPN/BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				B. WEAPON BRADLEY BASE SUSTAINMENT (M2A3) (G80717)				C. MANUFACTURER NAME		D. DATE February 1997	
WTCV Cost Elements		FY 96		FY 97		FY 98		FY 99					
ID	CD	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
1. Vehicle													
2. IBAS													
3. FLIR													
4. Other GFE													
<b>SUBTOTAL</b>													
5. Engineering-Government													
6. Engineering-Contractor													
7. Project Management Administration													
8. Reimbursable Matrix Support													
9. Test and Evaluation													
<b>SUBTOTAL</b>													
10. Cummins Engine Life-of-Type (LOT) Buy													
11. Peculiar Support Equipment													
12. Fielding													
<b>TOTAL</b>													

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
C. P-1 ITEM NOMENCLATURE										
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
1. Vehicle FY 97 FY 98 FY 99	UDLP YORK PA	SS/FFP	TACOM	Jun-97 May-98 Dec-98	Oct-98 Jun-99 May-00	35 18 78	1879 2016 1893	YES YES YES	NO NO NO	
2. IBAS FY 97 FY 98 FY 99	TEXAS INSTRUMENTS DALLAS TEXAS; HAC GEORGIA	C/FFP	MICOM	Jul-97 Jun-98 Jan-99	Jul-98 Mar-99 Feb-00	35 18 78	986 943 839	YES YES YES	NO NO NO	
3. FLIR FY 97 FY 98 FY 99	TEXAS INSTRUMENTS DALLAS TEXAS	SS/FFP	NVL	Mar-97 Jan-98 Jan-99	Apr-98 Jan-99 Dec-99	35 18 78	1075 676 661	YES YES YES	NO NO NO	
REMARKS:										

FY 98 / 99 BUDGET PRODUCTION SCHEDULE										P-1 ITEM NOMENCLATURE										BRADLEY BASE SUSTAINMENT (M2A3) (G80717)										DATE										February 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BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles		BRADLEY FVS TRAINING DEVICES (G20900)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0	0		
COST (in millions)	0.0	0.6	1.4	9.6	21.1	13.3	4.8		3.4		

**DESCRIPTION:**

- The Advanced Gunnery Training (AGTS) training objective is proficiency in the use of primary and alternate fire control and sighting equipment against mobile and stationary targets, and single and multiple target arrays in a realistic battlefield environment during daylight, at night, and reduced visibility. The training objectives of AGTS are target acquisition, identification, and engagement IAW established tactical doctrine and procedures. The AGTS is configured in two variants:
  - Permanent (PAGTS)--used to support institutional training.
  - Mobile (MAGTS)--used to support unit training. Is deployable anywhere in the world.
- Hands On Turret Trainer (HOTT) is a stand alone maintenance trainer used to support institutional training. It replicates an actual Bradley Turret allowing maintainers to trouble shoot, fault isolate, and repair over 100 induced faults.
- Turret Diagnostic/Troubleshooter is a virtual reality desk top trainer used to support institutional training. It is designed to support turret related operational repair and alignment skills for proper maintenance.
- Hull Diagnostic/Troubleshooter is a virtual reality desk top trainer used to support institutional training. It is designed to support turret related operational repair and alignment skills for proper maintenance.
- Upgrade of Precision Gunnery System (PGS). This currently fielded non-system training device (NSTD) is not compatible on the M2A3/M3A3 Bradley Fighting Vehicle.
- Upgrade of Thru-Sight Video (TSV). This currently fielded NSTD is not compatible on the M2A3/M3A3 Bradley Fighting Vehicle.
- Upgrade of MILES 2000. This currently fielded NSTD is not compatible on the M2A3/M3A3 Bradley Fighting Vehicle.
- Upgrade MILES SAWE. This currently fielded NSTD is not compatible on the M2A3/M3A3 Bradley Fighting Vehicle.
- Upgrade of Close Combat Tactical (CCTT). CCTT is a combined arms simulation trainer. The currently fielded NSTD simulators at each facility were positioned in an M2A2 configuration. The CCTT simulators at specific installation must be upgraded to reflect the vehicles on that installation.
- Bradley Desktop Trainer (BDT) is a desktop computer designed to support individual and networked unit training. The computer replicates the interior turret operation of the Bradley vehicle. It provides hands on training of the commanders computer.

**JUSTIFICATION:**

Introduction of the more technologically advanced Infantry Fighting Vehicle and Cavalry Fighting Vehicles into the Army inventory necessitates a redesign of existing training equipment. The rising cost of fuel, ammunition, repair parts, environmental restrictions, vehicles used exclusively for training, and restriction on the availability of suitable training areas will drastically reduce the capability to provide effective, realistic training on the BFVS through the operational use of the vehicle. The goal of training devices is to provide cost effective training to the soldiers without sacrificing realism. This training equipment will be part of an overall training package which will be used to replicate or substitute for actual vehicle use.

WTCV Cost Analysis			A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles			B. WEAPON BRADLEY FVS TRAINING DEVICES (G20900)			C. MANUFACTURER NAME			D. DATE February 1997		
WTCV Cost Elements			FY 96			FY 97			FY 98			FY 99		
ID	CD		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
1. ADVANCED GUNNERY TRAINING SYS														
a. Production														
b. Government Engineering														
SUBTOTAL														
2. MAINTENANCE TRAINERS														
a. HOTTS														
b. Hull D/T														
c. Turret DTt														
d. Government Engineering														
SUBTOTAL														
3. PRECISION GUNNERY SYSTEM														
a. Production														
b. Government Engineering														
SUBTOTAL														
BDT														
a. Production														
b. Government Engineering														
SUBTOTAL														
TOTAL														

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY		C. P-1 ITEM NOMENCLATURE								February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles		BRADLEY FVS TRAINING DEVICES (G20900)								
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
1. ADVANCED GUNNERY TRAINING SYS FY 99	Lockheed Martin, Orlando, FL	FFP	STRICOM	Oct-98	Aug-00	3	1220	N/A	N/A	N/A
2. MAINTENANCE TRAINERS										
a. HOTT										
FY 97	Contraves, Tampa, FL	FFP	STRICOM	Nov-97	May-99	1	550	N/A	N/A	N/A
FY 98	Contraves, Tampa, FL	FFP	STRICOM	Nov-97	May-00	1	672	N/A	N/A	N/A
FY 99	Contraves, Tampa, FL	FFP	STRICOM	Nov-98	Jun-00	3	543	N/A	N/A	N/A
b. Hull D/T										
FY 98	Contraves, Tampa, FL	FFP	STRICOM	Nov-97	May-99	5	58	N/A	N/A	N/A
FY 99	Contraves, Tampa, FL	FFP	STRICOM	Nov-98	May-00	5	58	N/A	N/A	N/A
c. Turret D/T										
FY 98	Contraves, Tampa, FL	FFP	STRICOM	Nov-97	May-99	5	80	N/A	N/A	N/A
FY 99	Contraves, Tampa, FL	FFP	STRICOM	Nov-98	May-00	5	80	N/A	N/A	N/A
4. MILES 2000 FY99	Cubic Defense, San Diego CA	FFP	STRICOM	Dec-98	Aug-00	44	5	N/A	N/A	N/A
5. BDT FY99	UDLP	FFP	STRICOM	Nov-98	Aug-00	96	27	N/A	N/A	N/A
REMARKS:										

BUDGET ITEM JUSTIFICATION SHEET								DATE
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE						
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles		HEAVY ASSAULT BRIDGE (HAB) TRAINING DEVICES (G84600)						
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
QUANTITY					5			
COST (In millions)				0.4	15.8	1.3	1.1	

**DESCRIPTION:** The Wolverine (Heavy Assault Bridge) simulator is an institutional operator training system (near term implementation) and will evolve into a future unit collective training system (mid to far term) implementation. Five institutional operator simulator systems will be located and housed at Ft. Leonard Wood to accomplish Advanced Individual Training (AIT) for the Military Occupational Specialty (MOS) 12B Combat Engineer on Wolverine driver/operator mission functions. Mission functions will include, driving the vehicle and conducting gap crossing operations (e.g. launch and retrieve the bridge) - day/night and in all weather/environmental conditions. Each simulator system will have the capability to train two Wolverine crews (4 MOS 12Fs) concurrently. The average student throughput is approximately 208.

**JUSTIFICATION:** The simulators will optimize training effectiveness at reduced institutional OPTEMPO costs and will minimize environmental impact to the installation.

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				B. WEAPON HAB TRAINING DEVICES (G84600)				C. MANUFACTURER NAME N/A		D. DATE February 1997			
WTCV Cost Elements		FY 96				FY 97				FY 98				FY 99	
ID	cd	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost		
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
Gov't Program Mgmt															
											398				





BUDGET ITEM JUSTIFICATION SHEET						DATE		February 1997																					
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE																											
PROCUREMENT OF WPNS & TRKD CMBT VEHs /Tracked Combat Vehicles		BRADLEY FVS TRAINING DEVICES (MOD) (GZ2500)																											
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003																					
QUANTITY																													
COST (in millions)	1.8	0.9	0.0	2.1	4.6	4.9	0.0	0.0																					
<p><b>DESCRIPTION:</b> (1) The Conduct of Fire Trainers( COFT) for the Bradley Fighting Vehicle provide training in target acquisition identification and engagement using primary, secondary, and auxiliary fire control and sighting equipment. This training equipment is part of an overall training package which is used to simulate or substitute for actual vehicle use. (2) The requirement to upgrade a specified number (30) of M2A1/M3A1 COFTs to replicate the M2A2/M3A2ODS configuration was the result of Operation Desert Storm. (3) Software Upgrades to Bradley Training to Bradley Training Devices to M2/M3A1 COFTs, ODS COFTs, PGS, CCTT, AGTS, Bradley Desktop Trainer.</p> <p>The intended sites for the M2/M3A1 Conduct of Fire Trainers (COFTs) by converting fifteen (15) M60A3 Mobile Conduct of Fire Trainers (M-COFTs) to M2/M3A1 M-COFTs and two (2) M60A3 Unit of Fire Trainers (U-COFTs) to M2/M3A1 U-COFTs are listed below.</p> <table border="0"> <tr> <td>3-161 IN (81 SMB)</td> <td>1-120 IN (30 SMB)</td> <td>278 ACR</td> </tr> <tr> <td>1-118 IN (218 SMB)</td> <td>1-167 IN (31 SAB)</td> <td>2-121 IN (48 SMB)</td> </tr> <tr> <td>1-163 IN (116 SAB)</td> <td>1-124 CAV (49 AD)</td> <td>E131 CAV (11 ACR)</td> </tr> <tr> <td>2-136 IN (MN-STARC)</td> <td>1-141 IN (49 AD)</td> <td></td> </tr> <tr> <td>2-278 ACS (278 ACR)</td> <td>2-141 IN (49 AD)</td> <td></td> </tr> <tr> <td>3-278 ACS (278 ACR)</td> <td>3-144 IN (49 AD)</td> <td></td> </tr> <tr> <td>1-119 IN (30 SMB)</td> <td>CAMP SHELBYTC</td> <td></td> </tr> </table>									3-161 IN (81 SMB)	1-120 IN (30 SMB)	278 ACR	1-118 IN (218 SMB)	1-167 IN (31 SAB)	2-121 IN (48 SMB)	1-163 IN (116 SAB)	1-124 CAV (49 AD)	E131 CAV (11 ACR)	2-136 IN (MN-STARC)	1-141 IN (49 AD)		2-278 ACS (278 ACR)	2-141 IN (49 AD)		3-278 ACS (278 ACR)	3-144 IN (49 AD)		1-119 IN (30 SMB)	CAMP SHELBYTC	
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<p><b>JUSTIFICATION:</b> (1) Conversion of fifteen (15) M60A3 M-COFTs to M2A1/M3A1 M-COFTs and two (2) M60A3 U-COFTs to M2/M3A1 U-COFTs; (2) M2A2/M3A2 Bradley Fighting Vehicle COFT Operation Desert Storm Enhancement Program are required to meet Army's new force structure requirements. (3) Software updates will be required of training devices. Training devices now function based on software. As a system is upgraded/modified, software on the training device must be modified to ensure no negative training for the soldier.</p>																													
<p>The average soldier sustainment throughput per year is approximately 3,600 for the BFV Commanders and Gunners in the units who will be receiving training on these COFTs.</p>																													





MODIFICATION INSTALLATION SUMMARY									
									Date
									September 1996
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
<i>No P3a Set for modification</i>									
BRADLEY FVS TRAINING DEVICES (MOD)									
GZ2500									
M-COFT CONVERSION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ODS COFT ENHANCEMENT	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
Software Upgrades	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3
NOTE: INSTALLATION COST IS NOT SEPARATELY IDENTIFIED ON THE CONTRACT. THEREFORE, P3N NOT APPLICABLE									

INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE:	M-COFT CONVERSION 1-93-05-4429	
MODELS OF SYSTEMS AFFECTED:	M2/M3A1 M-COFTS	
DESCRIPTION / JUSTIFICATION:	<p>The conversion is required to provide the number of M2A1/M3A1 M-COFTS identified by the latest force structure.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	PLANNED	ACCOMPLISHED
Examples	N/A	N/A
Preliminary Design Review:	N/A	N/A
Critical Design Review:	N/A	N/A
Contractor Test and Evaluation:	1Q96	2Q96
Development Test and Evaluation:	N/A	N/A
Initial Operational Test and Evaluation:	1Q96	2Q96
IPR Production Decision	N/A	N/A
TDP Available:	N/A	N/A

INDIVIDUAL MODIFICATION															September 1996			
MODIFICATION TITLE (Cont): M-COFT CONVERSION 1-93-05-4429																		
FINANCIAL PLAN: (\$ In Millions)																		
	FY 1996 Qty	FY 1996 \$	FY 1997 Qty	FY 1997 \$	FY 1998 Qty	FY 1998 \$	FY 1999 Qty	FY 1999 \$	FY 2000 Qty	FY 2000 \$	FY 2001 Qty	FY 2001 \$	FY 2002 Qty	FY 2002 \$	FY 2003 Qty	FY 2003 \$	TOTAL Qty	TOTAL \$
RDT&E																		
PROCUREMENT																		
Kit Quantity	17	7.1															17	7.1
Installation Kits																		
Installation Kits Nonrecurring Equipment																		
Equipment Nonrecurring																		
Engineering Change Orders																		
Data																		
Training Equipment																		
Support Equipment																		
Other																		
Interim Contractor Support																		
Installation of Hardware																		
FY 1996 & Prior Eqpt -- Kits	7		8														15	
FY1997 Eqpt -- Kits																		
FY 1998 Eqpt -- Kits																		
FY 1999 Eqpt -- Kits																	2	
FY 2000 Eqpt -- kits																		
FY 2001 Eqpt -- kits																		
FY 2002 Eqpt -- kits																		
FY 2003 Eqpt -- kits																		
(FY(TC) Eqpt (xx kits)																		
Total Installation Cost	7		8														17	
Total Procurement Cost		7.1																7.1

METHOD OF IMPLEMENTATION:

Contract Dates:

Delivery Date:

FY1997:

FY1997:

ADMINISTRATIVE LEADTIME:

FY 1998:

FY 1998:

6 Months

13 Months

PRODUCTION LEADTIME:

FY 1999:

FY 1999:



INDIVIDUAL MODIFICATION		Date	September 1996
MODIFICATION TITLE:	ODS COFT Enhancement Prog 1-96-05-4509		
MODELS OF SYSTEMS AFFECTED:	M2/M3A1 U-COFTS		
DESCRIPTION / JUSTIFICATION:	<p>The enhancement is required to provide the number of M2A1/M3A1 U-COFTS identified by the latest force structure.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED 3Q95	ACCOMPLISHED 3Q95	
Critical Design Review:	4Q95	4Q95	
Contractor Test and Evaluation:	2Q96	2Q96	
Development Test and Evaluation:	N/A	N/A	
Initial Operational Test and Evaluation:	3Q96	3Q96	
IPR Production Decision	NA	NA	
TDP Available:	NA	NA	

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INDIVIDUAL MODIFICATION		Date	September 1996
MODIFICATION TITLE:		Software Upgrades 1-96-05-4513	
MODELS OF SYSTEMS AFFECTED:		M2/M3AI COFTS, ODS COFTS, Precision Gunnery System, CCTT, AGTS, Bradley Desktop Trainer, and Maintenance Training Systems (HOTT).	
DESCRIPTION / JUSTIFICATION:		Software updates will be required of training devices. Training devices now function based on software. As a system is upgraded/modified, software on the training device must be modified to ensure no negative training for the soldier.	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: NOT APPLICABLE FOR SOFTWARE UPGRADES.			
Preliminary Design Review:		PLANNED	ACCOMPLISHED
Critical Design Review:			
Contractor Test and Evaluation:			
Development Test and Evaluation:			
Initial Operational Test and Evaluation:			
IPR Production Decision			
TDP Available:			



Installation Schedule: Software Upgrades 1-96-05-4513												
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		September 1996
& Prior		1	2	3	4	1	2	3	4	1	2	3
<b>Inputs</b>												
FY 1996 & Prior												
FY 1997												
FY 1998												
FY 1999												
<b>Outputs</b>												
FY 1996 & Prior												
FY 1997												
FY 1998												
FY 1999												
<b>Inputs</b>												
FY 2000		1	2	3	4	1	2	3	4	1	2	3
FY 2001												
FY 2000												
FY 2001												
<b>Outputs</b>												
FY 2000												
FY 2001												
FY 2000												
FY 2001												
<b>Remarks:</b>												
KIT INSTALLATION NOT APPLICABLE FOR SOFTWARE UPGRADE.												

BUDGET ITEM JUSTIFICATION SHEET										DATE	
APPROPRIATION / BUDGET ACTIVITY				P-1 ITEM NOMENCLATURE							
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles				FIELD ARTILLERY AMMUNITION SUPPORT VEH (G80100)							
	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program
QUANTITY	805	48	48								901
COST (in millions)	408.9	50.0	64.1	0.0	0.0	0.0	0.0	0.0	0.0		523.0
Initial Spares (in millions)	1.8										1.8
Total (in millions)	410.7	50.0	64.1								524.8
Unit Cost (in millions)	0.5	1.0	1.3								0.6
DESCRIPTION:											

**DESCRIPTION:**

The Field Artillery Support Vehicle (FAASV) is a full tracked armored ammunition vehicle with onboard Ammunition Handling Equipment (AHE). The M992 is used to support the M109 Self-Propelled Howitzer (SPH). The FAASV is capable of transporting a minimum 12,000 pounds of 155mm ammunition over improved, unimproved, and/or cross-country roads. Armor shielding provides necessary ballistic protection. An armored rear door hinges upward and outward to provide the overhead ballistic protection between the FAASV and the Howitzer during loading operations. A conveyor is used for passing prepared projectiles and propellant charges from the FAASV into the supported Howitzer, Modifications to the rear door, conveyor, and propellant canister racks is incorporated to make the FAASV compatible with the M109A6 Paladin. The FAASV has the mobility equivalent to its supported Self-Propelled Howitzers. The FAASV is designed to operate in all geographical areas and climatic conditions in which the Howitzer operates. The M992A2 was type classified standard in JULY 1994.

**JUSTIFICATION:**

The Carrier, Ammunition, Tracked (155mm, M992A2) provides a significant improvement to the Army's offensive ground combat capability. The FAASV provides 100% increase in armor protection for the crew and ammunition, an 80% increase in Ammunition Handling Equipment (AHE) capability and a 50% increase in vehicle mobility over the current M548, which is being replaced on a one-for-one basis. Thus, high artillery firing rates can be maintained while minimizing casualties. The FAASV has a ventilated face piece Nuclear, Biological, Chemical(NBC) system, a Simplified Test Equipment - Internal Combustion Engine (STE-ICE), and an Automatic Fire Extinguisher System. The FAASV is a companion vehicle to, and is required to support the M109A6 Self-Propelled Howitzer (SPH). It also preserves a warm mobilization base for the SPH with the only tooled and experienced producer.

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO		B. WEAPON		C. MANUFACTURER NAME		D. DATE	
		PROCUREMENT OF WPNS & TRKD CMBT VEHs / 1 /		FIELD ARTILLERY AMMUNITION SUPPORT		UDLP-GSD		February 1997	
		Tracked Combat Vehicles		VEH (G80100)					
		FY 96		FY 97		FY 98		FY 99	
WTCV		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty
Cost Elements		\$000	Each	\$	\$000	Each	\$	\$000	Each
1. Basic Vehicle	A	38637	48	804938	35216	48	733667		
2. Engine		1319	48	27479	1319	48	27479		
3. Roadwheels		144	1344	107	144	1344	107		
4. Track		895	7872	114	897	7872	114		
5. Bll		305	48	6354	324	48	6750		
6. Government Furnished Materiel		2955			3702				
7. Engineering Change Orders		95			96				
8. Engineering - Government		1506			6889				
9. Engineering - Contractor		2448			12699				
10. Project Management Administration		600			1370				
11. Initial Production Test		259			332				
12. Fielding		825			1152				
Total		49988		1041417	64140		1336250		

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A
FIELD ARTILLERY AMMUNITION SUPPORT VEH (G80100)										
1. Basic Vehicle										
FY 96	United Defense (UDLP-GSD) York, PA	SS/FFP	TACOM	Jul-96	May-98	48	804938			
FY 97	United Defense (UDLP-GSD) York, PA	OPTION	TACOM	Feb-97	Nov-98	48	733667			
2. Engine										
FY 96	Detroit Diesel Detroit, MI	SS/FFP EPA	TACOM	Jul-96	Nov-97	48	27479			
FY 97	Detroit Diesel Detroit, MI	SS/FFP EPA	TACOM	Jan-97	Aug-98	48	27479			
3. Roadwheels										
FY 96	North American Molded Products Hartsville, OH	C/FFP	TACOM	May-96	Oct-97	1344	107			
FY 97	North American Molded Products Hartsville, OH	C/FFP	TACOM	Jan-97	Jan-98	1344	107			
4. Track										
FY 96	VAREC, Belgium	C/FFP	TACOM	Jul-96	Oct-98	7872	114			
FY 97	TBD	C/FFP	TACOM	Aug-97	May-98	7872	114			
REMARKS:										







BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles		ARMORED COMBAT EARTHMOVER (G82303)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	54	0	0	0	0	0	0		0	
COST (in millions)	0.0	51.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
<p><b>DESCRIPTION:</b> The M9 Armored Combat Earthmover (ACE) is a highly mobile, high speed, tracked, armored combat earthmover. It is air transportable in C130, C141, and C5 aircraft. It provides light armor and chemical protection for the operator and armor protection for the engine and power train. The M9 provides the unique capability to travel at high speeds while retaining the capability for heavy digging. It has been provided to combat engineers and engineer support units. Its primary use is to support maneuver forces by digging survivable fighting positions for tank, infantry, and artillery units and create anti-tank ditches for obstacles.</p> <p><b>JUSTIFICATION:</b> Vehicles are required for 4ID units and the mission is to prepare fighting positions for the Army's prime ground combat vehicles, the M1 and M2/M3.</p>											

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				B. WEAPON ARMORED COMBAT EARTHMOVER (G82303)				C. MANUFACTURER NAME		D. DATE February 1997			
WTCV Cost Elements		FY 96				FY 97				FY 98				FY 99	
ID	CD	TotalCost	Qty	UnitCost	TotalCost	TotalCost	Qty	UnitCost	TotalCost	TotalCost	Qty	UnitCost	TotalCost	UnitCost	
		\$000	Each	\$000	\$000	\$000	Each	\$000	\$000	\$000	Each	\$000	\$000	\$000	
1. Hardware	A				48060		54	890							
2. Engines					2700		54	50							
3. Engineering In House Support					192										
TOTAL						50952									

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
C. P-1 ITEM NOMENCLATURE										
ARMORED COMBAT EARTHMOVER (G82303)										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
1. Hardware FY97	United Defense LP York, Pennsylvania	SS/FFP	TACOM	Jul-97	Oct-98	54	890	Yes	No	
REMARKS: Breakout of hardware can't be determined until ALPHA contract process is completed. Costs will be determined by using cost as an independent variable.										





BUDGET ITEM JUSTIFICATION SHEET							DATE	
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE					February 1997	
PROCUREMENT OF WPNS & TRKD CMBT VEHs / Tracked Combat Vehicles		ABRAMS TANK TRAINING DEVICES (GB1300)						
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
QUANTITY	0	0	0	0	0	0	0	0
COST (in millions)	6.1	12.6	13.4	13.9	8.5	11.2	12.6	13.1

**M1A2 TRAINING DEVICES**

**DESCRIPTION:** The family of M1A2 Training Aids, Devices, Simulators and Simulations (TADSS) will replicate actual tank performance without incurring the much higher costs of operating the tank itself.

- Advance Gunnery Training System (AGTS) - These are precision gunnery trainers which provide realistic commander and gunner training under varying scenarios as well as atmospheric conditions. The System Enhancement Program (SEP) improvements will be cut into production in FY98.
- Maintenance Trainers - These systems provide training in essential unit and direct support/general support tasks. There are four different trainers: M1A2 Hands-on-Trainer (HOT); Hull Electrical Diagnostic/Troubleshooting (D/T) Trainer; Turret/Fire control D/T Trainer; and Direct Support Electrical System Test Set Line Replaceable Unit (DSESTS LRU) simulators. The students (approx 600/yr) will learn about the sub-systems and procedures for troubleshooting and fault isolating the tank system. The intended sites are Ft. Knox and Aberdeen Proving Grounds.
- SEP Integration - This funding provides for integration of SEP improvements into the various training devices impacted by those changes on the tank.

**JUSTIFICATION:** Fielding of the M1A2 Main Battle Tank requires concurrent fielding of a training support package. Rising O&S costs will drastically reduce the capability to provide effective, realistic training on the M1A2 tanks through the operational use of the vehicle. Realistic training on a family of training devices simply makes better economic sense.

WTCV Cost Analysis			A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				B. WEAPON ABRAMS TANK TRAINING DEVICES (GB1300)				C. MANUFACTURER NAME Various		D. DATE February 1997			
WTCV Cost Elements			FY 96				FY 97				FY 98				FY 99	
ID	CO		TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost		
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
A		Adv Gunnery Training System (AGTS)														
		SUBTOTAL														
		1) Production	1819			6600			7700			8800				
		2) Gov't Spt	206			550			550			400				
		3) First Article Test	268			2840			1768			300				
		4) Non Recurring Cost	2907													
		SUBTOTAL	5200	7	743	9990	6	1665	10018	6	1670	9500	8	1188		
A		M1A2 Maintenance Trainers														
		1) Production	750													
		2) Gov't Spt	183													
		3) First Article Test														
		4) Non Recurring Cost														
		SUBTOTAL	933	VAR	VAR		VAR	VAR								
A		M1A2 Non System Integration Kits														
		1) Production				550										
		2) Gov't Spt				50										
		3) First Article Test														
		4) Non Recurring Cost														
		SUBTOTAL				600	VAR	VAR								
A		M1A2 Software Upgrades														
		1) Production														
		2) Gov't Spt				100			100			100				
		3) First Article Test				900			1100			1100				
		4) Non Recurring Cost														
		SUBTOTAL				1000	VAR	VAR	1200	VAR	VAR	1200	VAR	VAR		
A		SEP Integration														
		1) Production														
		2) Gov't Spt														
		3) First Article Test														
		4) Non Recurring Cost														
		SUBTOTAL				1000	VAR	VAR	2133	VAR	VAR	3150	VAR	VAR		
		TOTAL	6133			12590			13351			13850				

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)											
B. APPROPRIATION / BUDGET ACTIVITY		PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				C. P-1 ITEM NOMENCLATURE					
LINE ITEM / FISCAL YEAR		CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
Adv Gunnery Training System (AGTS)		Lockheed Martin, Orlando, FL	C-FPI	STRICOM	Feb-96	May-97	VAR	VAR	Yes	No	
FY 96		Lockheed Martin, Orlando, FL	C-FPI	STRICOM	Jan-97	Mar-98	VAR	VAR	Yes	No	
FY 97		Lockheed Martin, Orlando, FL	C-FPI	STRICOM	Mar-98	Mar-00	VAR	VAR			
FY 98		Lockheed Martin, Orlando, FL	C-FPI	STRICOM	Jan-99	Mar-01	VAR	VAR			
FY 99		Lockheed Martin, Orlando, FL	C-FPI	STRICOM							
M1A2 Maintenance Trainers		Contraves, Tampa, FL	C-FFP	STRICOM	Mar-96	Mar-98	VAR	VAR	Yes	No	
FY 96											
M1A2 Non System Integration Kits 1/		Various	C-FFP	STRICOM	Mar-97	Jun-98	VAR	VAR	No	No	
FY 97											
M1A2 Software Upgrades 2/		Various	C-FFP	STRICOM	Dec-96	Dec-97	VAR	VAR	No	No	
FY 97		Various	C-FFP	STRICOM	Dec-97	Dec-98	VAR	VAR	No	No	
FY 98		Various	C-FFP	STRICOM	Dec-98	Dec-99	VAR	VAR	No	No	
FY 98											
SEP Integration		Lockheed Martin, Orlando, FL	C-PIF	STRICOM	Feb-97	NA	VAR	VAR	No	No	
FY 97		Lockheed Martin, Orlando, FL	C-PIF	STRICOM	Feb-98	NA	VAR	VAR	No	No	
FY 98		Lockheed Martin, Orlando, FL	C-PIF	STRICOM	Feb-99	Mar-00	VAR	VAR	No	No	
FY 99											
REMARKS: 1/ M1A2 Non-System Integration Kits provide system unique kits allowing the installation of Non-System Training Devices, such as Thru Sight Video (TSV), Tank Weapon Gun Simulation System (TWGSS) and Precision Range Integrated Maneuver Exercise (PRIME), and Multiple Integrated Laser Engagement System (MILES) onto the M1A2 tank.											
2/ M1A2 trainer software upgrades update M1A2 training devices to keep pace with changes in the M1A2 tank.											









BUDGET ITEM JUSTIFICATION SHEET											DATE
APPROPRIATION / BUDGET ACTIVITY											February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Tracked Combat Vehicles											
P-1 ITEM NOMENCLATURE											
COMMAND & CONTROL VEHICLE (GB4200)											
Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program	
QUANTITY		5	5	14	22	35	22	35	301	439	
COST (in millions)		48.9	30.9	62.7	100.0	122.9	86.8	123.9	1008.0	1584.1	
Initial Spares (in millions)			1	1						1.8	
Total (in millions)		48.9	31.8	63.6	100.0	122.9	86.8	123.9	1008.0	1585.9	
Unit Cost (in millions)		9.8	6.4	4.5	4.5	3.5	3.9	3.5	3.3	3.6	

**DESCRIPTION:** The Command and Control Vehicle (C2V), XM4 provides a fully tracked, armored vehicle based on Bradley A2 and MLRS designs and components. It will ensure a mobile, responsive, and survivable command and control capability for the heavy force, and it provides the platform to support command and control on the move. C2V was developed in response to lessons learned during Operation Desert Storm. It supports the Army Digitization Effort, incorporating communications and electronic systems compatible with Army Tactical Command and Control Systems (ATCCS).

**JUSTIFICATION:** This program was initiated as a result of deficiencies in existing command and control vehicles identified during Operation Desert Storm.

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				B. WEAPON COMMAND & CONTROL VEHICLE (G84200)				C. MANUFACTURER NAME United Defense Limited Partnership (UDLP)				D. DATE February 1997		
WTCV Cost Elements		FY 96				FY 97				FY 98				FY 99		
ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
1. Vehicle					12394	5	2479	15668	5	3134	35507	14	2536			
2. Engine (Included in LOT buy)																
3. Transmission					739	5	148	754	5	151	2155	14	154			
4. Primary Power Unit											2656	14	190			
5. Environmental Control Unit											592	14	42			
6. Bio Chem Unit											1654	14	118			
7. Spall Liners (Kevlar)											820	14	59			
8. Other GFE					141	5	28	155	5	31	442	14	32			
9. Mission Component Integration					1826	5	365	1475	5	295	3087	14	221			
10. Veh Inter/Intra Communication System (VIICS)					396	5	79	226	5	45	629	14	45			
Subtotal Hardware Cost					15496			18278			47542					
11. Tooling																
12. FAT/Qual of Vendors																
Subtotal Non Recurring Production																
13. Test																
14. Engineering-Government					1185			680			964					
15. Engineering Contractor					9296			2791			2845					
16. Project Management Administration					300			7179			9761					
17. Reimbursable Matrix Support					190			408			438					
18. Software Support					522			389			418					
19. Logistics								286			292					
20. Cummins Engine Life-of-Type (LOT) Buy					21950	439	50	886			421					
TOTAL					48939			30897			62681					

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
B. APPROPRIATION / BUDGET ACTIVITY											
C. P-1 ITEM NOMENCLATURE											
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles											
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A	
1. Vehicle											
FY 97	UDLP, York, PA	SS/FFP	TACOM	Dec-96	Apr-98	5	2479		No		
FY 98	UDLP, York, PA	SS/FFP	TACOM	Dec-97	Apr-99	5	3134		No		
FY 99	UDLP, York, PA	SS/FFP	TACOM	Dec-98	Apr-00	14	2536		No		
3. Transmission											
FY 97	Lockheed-Martin, Pittsfield, MA	SS/FFP	TACOM	Mar-97	Apr-98	5	148		No		
FY 98	Lockheed-Martin, Pittsfield, MA	SS/FFP	TACOM	Mar-98	Apr-99	5	151		No		
FY 99	Lockheed-Martin, Pittsfield, MA	SS/FFP	TACOM	Mar-99	Apr-00	14	154		No		
4. Primary Power Unit											
FY 99	TBD	TBD	TACOM	Dec-98	Apr-00	14	190		No		
5. Environmental Control Unit											
FY 99	TBD	TBD	TACOM	Dec-98	Apr-00	14	42		No		
6. Bio Chem Unit											
FY 99	TBD	TBD	TACOM	Dec-98	Apr-00	14	118		No		
7. Kevlar Armor											
FY 99	TBD	TBD	TACOM	Dec-98	Apr-00	14	59		No		
9. Mission Component Integration											
FY 97	LM West Dev Lab, San Jose, CA	FP-Op	CECOM	Feb-97	Apr-98	5	365		No		
FY 98	LM West Dev Lab, San Jose, CA	FP-Op	CECOM	Dec-97	Apr-99	5	295		No		
FY 99	LM West Dev Lab, San Jose, CA	FP-Op	CECOM	Dec-98	Apr-00	14	221		No		
REMARKS: LM West Dev Lab - Lockheed-Martin Western Development Labs											
FY 98: High vehicle cost reflects reduced business base											
FY 99: Breakout of Primary Power Unit, Environmental Control Unit, Bio Chem Unit, and Kevlar Armor											

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
C. P-1 ITEM NOMENCLATURE										
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A
10. Veh Inter/Intra Communication System FY 97 FY 98 FY 99	LM West Dev Lab, San Jose, CA LM West Dev Lab, San Jose, CA LM West Dev Lab, San Jose, CA	FP FP FP	CECOM CECOM CECOM	Feb-97 Dec-97 Dec-98	Apr-98 Apr-99 Apr-00	5 5 14	79 45 45		No No No	
<b>REMARKS:</b> LM West Dev Lab - Lockheed-Martin Western Development Labs FY 98: High vehicle cost reflects reduced business base FY 99: Breakout of Primary Power Unit, Environmental Control Unit, Bio Chem Unit, and Spall Liners(Kevlar)										











BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Tracked Combat Vehicles										
P-1 ITEM NOMENCLATURE										
CARRIER, MOD (GB1930)										
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	0	0	0	0	0	0	0	0		
COST (in millions)	48.0	43.0	20.2	34.0	41.3	41.2	44.7	45.4		

**DESCRIPTION:** The M113 Family will consist of 21,400 vehicles on the FY96 Table of Authorization and Equipment with almost 700 carriers in each mechanized division. These carriers provide essential transport for troops, antitank weapons, air defense systems, electronic warfare (EW) shelters, mortars, command centers, and cargo. The current fleet will be required for at least 20-30 more years and must be continuously modified to ensure safety, provide operational stability and reduce logistical burden. Operations Just Cause and Desert Storm highlighted the need to upgrade the mobility and chemical protection of this fleet, to further enhance performance, reliability, survivability, and supportability.

**JUSTIFICATION:**

- CREW CHEMICAL PROTECTION:** Provides vehicular adaptation, attachments, and connections to permit use of the current Ventilated Face Mask (VFM) subsystems. The VFM system includes the necessary blowers, filters, heaters, hoses and switches, and vehicle and subsystem electrical installation hardware for use in conjunction with an individual's personal M14A1 face mask. Permits operational use of the vehicle in a nuclear, biological, and chemical (NBC) environment.
- DRIVER'S NIGHT VIEWER:** The M19 image intensifier currently used on the M113 FOV has limited night vision. The AN/VVS-2(V)1A driver's night viewer has been adapted for use on the M113 FOV. The driver's night viewer enhances operational capability by providing capability for travelling in darkness and low visibility conditions equal to that on the Abrams and Bradley forces.
- BLOCK 1:** Provides improvements to enhance crew survivability and mobility to meet operational requirements. Addition of a turbo charged diesel engine provides horsepower which increases vehicle survivability/mobility. Coupling the higher output engine with the improved transmission results in a more reliable power train. The spall liner and external fuel tanks significantly improve crew survivability.
- FUEL SYSTEM:** The M577A2 currently incorporates a 4.2KW mogas powered generator. The Army transitioned to all diesel generators in the mid 1980's and a new diesel generator is scheduled to be available by FY 96. This modification incorporates additional fuel lines to permit the generators to use on board vehicle diesel fuel. This modification will be incorporated at a rate consistent with receipt of new generators.



MODIFICATION INSTALLATION SUMMARY									
									Date
									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
CARRIER, MOD									
GB1930									
Crew Chemical Protection	0.0	0.5	0.4	0.4	0.4	0.4	0.4	0.4	2.9
Driver's Night Viewer	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Block I	7.2	8.1	5.9	1.4	4.9	5.2	5.2	5.8	43.7
Fuel Systems	0.2	0.6	0.1	0.2	0.1	0.3	0.2	0.3	2.0
Totals	7.4	9.2	6.4	2.0	5.4	5.9	5.8	6.5	48.6

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Crew Chemical Protection 1-91-05-4311			
MODELS OF SYSTEMS AFFECTED: M113A2, M113A3, M577A2			
DESCRIPTION / JUSTIFICATION:			
Provides vehicular adaptation, attachments and connections to permit use of the current Ventilated Face Mask (VFM) subsystem. The VFM system includes the necessary blowers, filters, heaters, hoses and switches, and vehicle and subsystem electrical installation hardware for use in conjunction with an individual's personal M14A1 face mask. Permits operational use of the vehicle in a nuclear, biological, and chemical (NBC) environment.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	N/A
Critical Design Review:			N/A
Contractor Test and Evaluation:			N/A
Development Test and Evaluation:			N/A
Initial Operational Test and Evaluation:			N/A
IPR Production Decision			N/A
TDP Available:			Feb-92

INDIVIDUAL MODIFICATION														Date		February 1997							
MODIFICATION TITLE (Cont): Crew Chemical Protection 1-91-05-4311																							
FINANCIAL PLAN: (\$ In Millions)																							
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL				
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
RDT&E																							
PROCUREMENT																							
Kit Quantity	382	1.0	188	0.5	221	0.6	216	0.6	211	0.6	207	0.6	202	0.6	198	0.6	3224	10.9	5049	16.0			
Installation Kits																							
Installation Kits Nonrecurring Equipment																							
Equipment Nonrecurring Engineering Change Orders																							
Data																							
Training Equipment																							
Support Equipment																							
Other																							
Interim Contractor Support																							
Installation of Hardware																							
FY 1996 & Prior Eqpt -- Kits			287	0.5	95	0.2													382	0.7			
FY 1997 Eqpt -- Kits					141	0.2	47	0.1											188	0.3			
FY 1998 Eqpt -- Kits							166	0.3	55	0.1									221	0.4			
FY 1999 Eqpt -- Kits									162	0.3	54	0.1							216	0.4			
FY 2000 Eqpt -- kits											159	0.3	52	0.1					211	0.4			
FY 2001 Eqpt -- kits													156	0.3	51	0.1			207	0.4			
FY 2002 Eqpt -- kits															152	0.3	50	0.1	202	0.4			
FY 2003 Eqpt -- kits																	198	0.4	198	0.4			
(FY(TC) Eqpt (xx kits)																	3224	7.3	3224	7.3			
Total Installation Cost			287	0.5	236	0.4	213	0.4	217	0.4	213	0.4	208	0.4	203	0.4	3472	7.8	5049	10.7			
Total Procurement Cost		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		18.7		26.7			
METHOD OF IMPLEMENTATION: Depot																		5 Months		10 Months			
Contract Dates:																		FY 1997: Jan 97		ADMINISTRATIVE LEADTIME: Dec 97		PRODUCTION LEADTIME: Dec 98	
Delivery Date:																		FY 1997: Oct 97		FY 1998: Oct 98		FY 1999: Oct 99	



Installation Schedule: Crew Chemical Protection 1-91-05-4311														
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997		
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	4
Inputs														
FY 1996 & Prior	128	127	127		47	47	47	47						
FY 1997														
FY 1998					56	55	55	55						
FY 1999									54	54	54	54		
Outputs														
FY 1996 & Prior	96	96	95	95										
FY 1997					47	47	47	47						
FY 1998									56	55	55	55		
FY 1999													54	54
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003													51	51
Outputs														
FY 2000														
FY 2001														
FY 2002														
FY 2003														
Inputs														
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	1	4
FY 2001					53	53	53	52						
FY 2002									52	52	52	51		
FY 2003														

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	Driver's Night Viewer 1-94-05-4463		
MODELS OF SYSTEMS AFFECTED:	M113 Family of Vehicles		
DESCRIPTION / JUSTIFICATION:			
<p>The M19 image intensifier currently used on the M113 FOV has limited night vision. The AN/VVS-2(V)1a driver's night viewer has been adapted for use on the M113 FOV. The driver's night viewer enhances operational capability by providing capability for travelling in darkness and low visibility conditions equal to that on the Abrams and Bradley forces.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	N/A
Critical Design Review:			N/A
Contractor Test and Evaluation:			N/A
Development Test and Evaluation:			N/A
Initial Operational Test and Evaluation:			N/A
IPR Production Decision			N/A
TDP Available:			Sep 94

INDIVIDUAL MODIFICATION																	Date		February 1997					
MODIFICATION TITLE (Cont):																	Driver's Night Viewer 1-94-05-4463							
FINANCIAL PLAN: (\$ in Millions)																								
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL					
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$				
RDT&E																								
PROCUREMENT																								
Kit Quantity																								
Installation Kits	223	1.4	168	1.1	239	1.6	263	1.8	200	1.4	196	1.4	192	1.4	188	1.4	1931	15.9	3600	27.4				
Installation Kits Nonrecurring Equipment																								
Equipment Nonrecurring																								
Engineering Change Orders																								
Data																								
Training Equipment																								
Support Equipment																								
Other																								
Interim Contractor Support																								
Installation of Hardware																								
FY 1996 & Prior Eqpt -- Kits	67		156		168															223				
FY 1997 Eqpt -- Kits																				168				
FY 1998 Eqpt -- Kits							239													239				
FY 1999 Eqpt -- Kits									263											263				
FY 2000 Eqpt -- kits											200									200				
FY 2001 Eqpt -- kits													196							196				
FY 2002 Eqpt -- kits															192					192				
FY 2003 Eqpt -- kits																	188			188				
(FY(TC) Eqpt (xx kits)																	1931	0.1	1931	0.1				
Total Installation Cost	67		156		168		239		263		200		196		192		2119	0.1	3600	0.1				
Total Procurement Cost		1.4		1.1		1.6		1.8		1.4		1.4				1.4		16.0		27.5				
METHOD OF IMPLEMENTATION: Depot																	8 Months		PRODUCTION LEADTIME:		8 Months			
Contract Dates:																	FY 1997: Dec 97		FY 1998: Dec 98		FY 1999: Aug 99			
Delivery Date:																	FY 1997: Aug 97		FY 1998: Aug 98		FY 1999: Aug 99			



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	Block I 1-84-05-4026		
MODELS OF SYSTEMS AFFECTED:	M113A2, M548, M577A2, M981, M1059, M1064, M1068		
DESCRIPTION / JUSTIFICATION:	<p>Provides improvements to enhance crew survivability and mobility to meet operational requirements. Addition of a turbo charged diesel engine provides horsepower which increases vehicle survivability/mobility. Coupling the higher output engine with the improved transmission results in a more reliable power train. The spall liner and external fuel tanks significantly improve crew survivability.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	N/A
Critical Design Review:			N/A
Contractor Test and Evaluation:			N/A
Development Test and Evaluation:			N/A
Initial Operational Test and Evaluation:			N/A
IPR Production Decision			May-86
TDP Available:			Jun-86

INDIVIDUAL MODIFICATION																					
MODIFICATION TITLE (Cont):																		Date			
Block I 1-84-05-4026																					
FINANCIAL PLAN: (\$ In Millions)																					
FY 1996 and Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL				
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			
RDT&E	1.0																		1.0		
PROCUREMENT																					
Kit Quantity																					
Installation Kits	2334	223.4	258	27.7	66	7.1	226	25.8	230	26.8	222	26.3	245	29.7	238	29.7	2003	271.3	5822		
Installation Kits Nonrecurring Equipment		3.4																			
Equipment Nonrecurring Engineering Change Orders																					
Data		40.2		2.9		2.9		3.0		5.1		5.2		5.3		5.4		33.4			
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
FDT		0.1		0.1		0.1		0.4		0.1		0.1		0.1		0.1		0.6			
TPF		2.6		1.3		0.9				0.8		0.8		0.8		0.8		7.7			
Installation of Hardware																					
FY 1996 & Prior Eqpt -- Kits	379	7.2	363	8.1		5.9													742		
FY 1997 Eqpt -- Kits					258														258		
FY 1998 Eqpt -- Kits							66	1.4	226	4.9									66		
FY 1999 Eqpt -- Kits											230	5.2							226		
FY 2000 Eqpt -- Kits													222	5.2	245	5.8			230		
FY 2001 Eqpt -- Kits																			222		
FY 2002 Eqpt -- Kits																			245		
FY 2003 Eqpt -- Kits																	238	5.7	238		
(FY(TC) Eqpt (xx kits)																	2003	54.1	2003		
Total Installation Cost	379	7.2	363	8.1	258	5.9	66	1.4	226	4.9	230	5.2	222	5.2	245	5.8	2241	59.8	4230		
Total Procurement Cost		276.9		40.1		16.9		30.6		37.7		37.6		41.1		41.8		372.8			
METHOD OF IMPLEMENTATION: Depot/Contractor																					
Contract Dates: FY 1997: Jan 97 FY 1998: Dec 97 FY 1999: Dec 98																					
Delivery Date: FY 1997: Jul 97 FY 1998: Jul 98 FY 1999: Jul 99																					
																		8		Months	

METHOD OF IMPLEMENTATION: Depot/Contractor  
 Contract Dates: FY 1997: Jan 97  
 Delivery Date: FY 1997: Jul 97

ADMINISTRATIVE LEADTIME:  
 FY 1998: Dec 98  
 FY 1998: Jul 98

PRODUCTION LEADTIME: 3 Months  
 FY 1999: Dec 98  
 FY 1999: Jul 99



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	Fuel Systems 1-91-05-4312		
MODELS OF SYSTEMS AFFECTED:	M577A2 Command Post Carrier		
DESCRIPTION / JUSTIFICATION:			
<p>The M577A2 currently incorporates a 4.2 KW mogas powered generator. The Army transitioned to all diesel generators in the mid 1980's and a new diesel generator became available in FY 96. This modification incorporates additional fuel lines to permit the generators to use on board vehicle diesel fuel. This modification will be incorporated at a rate consistent with receipt of new generators.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	N/A
Critical Design Review:			N/A
Contractor Test and Evaluation:			N/A
Development Test and Evaluation:			N/A
Initial Operational Test and Evaluation:			N/A
IPR Production Decision			N/A
TDP Available:			Sep-92



INDIVIDUAL MODIFICATION														Date		February 1997					
Fuel Systems 1-91-05-4312																					
MODIFICATION TITLE (Cont):																					
FINANCIAL PLAN: (\$ in Millions)																					
FY 1996 and Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL				
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$					
RDT&E																					
PROCUREMENT																					
Kit Quantify	364	3.2	22	0.2	65	0.6	43	0.4	114	1.1	92	0.9	100	1.0	88	0.9	612	6.9	1500	15.2	
Installation Kits																					
Installation Kits Nonrecurring Equipment																					
Equipment Nonrecurring Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt -- Kits	91	0.2	273	0.6															364	0.8	
FY 1997 Eqpt -- Kits					22	0.1													22	0.1	
FY 1998 Eqpt -- Kits							65	0.2											65	0.2	
FY 1999 Eqpt -- Kits									43	0.1									43	0.1	
FY 2000 Eqpt -- kits											114	0.3							114	0.3	
FY 2001 Eqpt -- kits													92	0.2					92	0.2	
FY 2002 Eqpt -- kits															100	0.3			100	0.3	
FY 2003 Eqpt -- kits																	88	0.2	88	0.2	
(FY(TC) Eqpt (xx kits)																		612	1.8	612	1.8
Total Installation Cost	91	0.2	273	0.6	22	0.1	65	0.2	43	0.1	114	0.3	92	0.2	100	0.3	700	2.0	1500	4.0	
Total Procurement Cost		3.4		0.8		0.7		0.6		1.2		1.2		1.2		1.2		8.9		19.2	

METHOD OF IMPLEMENTATION: Depot										ADMINISTRATIVE LEADTIME:										PRODUCTION LEADTIME:									
Contract Dates:					FY 1997: Jan 97					FY 1998: Dec 97					FY 1999: Dec 98					5 Months									
Delivery Date:					FY 1997: Apr 97					FY 1998: Apr 98					FY 1999: Apr 99														

METHOD OF IMPLEMENTATION: Depot  
Contract Dates: FY 1997: Jan 97  
FY 1997: Apr 97  
Delivery Date:

ADMINISTRATIVE LEADTIME:  
FY 1998: Dec 97  
FY 1998: Apr 98

PRODUCTION LEADTIME: 4 Months  
FY 1999: Dec 98  
FY 1999: Apr 99

**Installation Schedule:** Fuel Systems 1-91-05-4312

Inputs		FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				Total
		& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
FY 1996 & Prior		91	69	68	68	68																	364			
FY 1997							6	6	5	5												22				
FY 1998											17	16	16	16								65				
FY 1999															11	11	11	11	10			43				
Outputs																										
FY 1996 & Prior		91	69	68	68	68																364				
FY 1997							6	6	5	5												22				
FY 1998											17	16	16	16								65				
FY 1999															11	11	11	11	10			43				
Inputs																										
FY 2000			1	2	3	4	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Total		
FY 2000								29	29	28	28												114			
FY 2001																							92			
FY 2002											23	23	23	23									100			
FY 2003															25	25	25	25	25	22	22	22	88			
Outputs																										
FY 2000								29	29	28	28												114			
FY 2001																							92			
FY 2002											23	23	23	23									100			
FY 2003															25	25	25	25	25	22	22	22	88			

Remarks:

BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Tracked Combat Vehicles		FIST VEHICLE (MOD) (GZ2300)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	9	15	32	46	68	85			
COST (in millions)	0.0	0.0	14.7	16.2	29.3	36.6	51.7	64.1			
<p><b>DESCRIPTION:</b> The Bradley Support Vehicle (BFIST) conducts two primary missions on the heavy force battlefield. The first mission is fire mission planning and execution for maneuver company commanders. The second is targeting enemy positions with conventional munitions or designating enemy targets for delivery of various forms of laser guided munitions. The Fire Support Team (FIST) is attached to a mechanized infantry or armor company and is primarily responsible for developing and executing fire support plans that enable success on the battlefield. The Bradley based Combat Observation Lasing Team (COLT) is typically placed in direct support of the maneuver brigade commander. As a brigade commander asset, the COLT will observe key and decisive terrain of brigade interest and direct artillery assets as planned on this terrain. COLTs are also assigned to division cavalry troops where they perform a similar mission for the Division Commander. There is no technical difference between the COLT and FIST Bradley vehicles. The BFIST will accomplish both missions. The FIST team is typically engaged in fire mission planning and execution. Designating targets for special munitions is a secondary mission. The COLT is primarily focused on preparing key and decisive terrain for targeting conventional munitions or designating special artillery or Air Force delivered munitions.</p> <p><b>JUSTIFICATION:</b> The current Fire Support Vehicle M981 was unable to maintain the operational tempo of Bradley/Abrams equipped maneuver forces during Operation Desert Storm (ODS). Additionally, the M981 displayed a number of operational deficiencies and shortcomings remedied by the BFIST design.</p>											

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles		B. WEAPON FIST VEHICLE (MOD) (GZ2300)		C. MANUFACTURER NAME United Defense Limited Partnership (UDLP)		D. DATE February 1997	
WTCV Cost Elements		FY 96		FY 97		FY 98		FY 99	
ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each
<b>Hardware Cost</b>									
1. Vehicle Upgrade					7152	9	795	12188	15
<b>SUBTOTAL</b>					7152			12188	
<b>Non Recurring Production</b>									
2. Engineering Contractor					5002			1349	
3. Engineering Government					1770			1620	
4. Program Management Administration					73			80	
5. Reimbursable Matrix Support					659			728	
6. Fielding								204	
<b>SUBTOTAL</b>					7504			3981	
<b>TOTAL</b>					14656			16169	
									813

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
C. P-1 ITEM NOMENCLATURE										
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A
1. Vehicle Upgrade										
FY 98	UDLP, York, PA	SS/FFP	TACOM	Dec-97	Apr-99	9	795		No	
FY 99	UDLP, York, PA	SS/FFP	TACOM	Nov-98	Mar-00	15	813		No	
REMARKS:										









BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHs / Tracked Combat Vehicles										
P-1 ITEM NOMENCLATURE										BFVS SERIES (MOD) (GZ2400)
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	0	0	0	0	0	0	0	0		0
COST (in millions)	93.1	119.0	61.2	46.6	60.6	57.5	65.2	65.7		

DESCRIPTION: The funds appropriated, budgeted, and programmed in this budget line will provide for the procurement and application of modification kits for the Bradley Fighting Vehicle to improve lethality, survivability, mobility and situational awareness. The Operation Desert Storm improvements are 6 ECPs which will correct deficiencies identified in Operation Desert Storm and include: Laser Range Finder, Position Navigation System, Equipment Restow Improvement, Combat Identification System, Drivers Vision Enhancer and Missile Countermeasure Device. The A1 to A2 conversion effort increases the vehicle survivability and brings the vehicle up to the current A2 configuration, with the addition of the High Survivability Kit and the 600HP power pack. The Optically Improved Backup Sights and Periscopes provide eye protection for the crew against near term lasers. Operational improvements are the Transmission Electronic Controller, the Armament Control Unit Pillow Block, the Vehicle Intercommunications System, TOW mod for AO, Armor Tiles, Engine Access Door Lift Pump and TOW Subsystem Support Equipment Mod. One safety mod, the A2 Card Retrofit, will prevent inadvertent TOW missile launch. Additionally, there is the Presidentially directed HALON Replacement Program. Most of these modifications will be applied concurrently in "blocks" to reduce application cost and inconvenience to the unit. The programs in these P-Forms were initiated to meet requirements identified to improve the Bradley performance and correct deficiencies. Reduced Bradley Fighting Vehicle capability, survivability, and mobility will occur if these modifications are delayed or reduced.

<b>BUDGET ITEM JUSTIFICATION SHEET</b>		DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE	
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles		BFVS SERIES (MOD) (G22-400)	

OSIP No.	Description	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Classification	All PYs							
1-84-05-4038	A1-A2 Conversion							
Oper. capability	345.7	11.5	13.5	11.0	0.0	0.0	0.0	0.0
1-92-05-4404	A2 ODS Mods							
Oper. capability	69.3	48.9	34.6	29.5	1.8	0.0	0.0	0.0
1-90-05-4282	Transmission Electronic Controller (TEC)							
Oper. capability	5.8	4.1	3.8	3.4	0.0	0.0	0.0	0.0
1-86-05-4115	OI Backup Sights/Periscopes							
Oper. capability	19.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0
1-91-05-4314	ACU Pillow Block Mod							
Oper. capability	5.7	0.9	0.7	0.0	0.0	0.0	0.0	0.0
1-90-05-4284	Vehicle Intercom System							
Oper. capability	8.5	3.4	2.2	0.0	0.0	0.0	0.0	0.0
1-93-05-4441	DECA							
Oper. capability	11.5	5.7	1.4	2.7	0.0	0.0	0.0	0.0
1-92-05-4422	HALON Replacement							
Legislative Compl.	4.3	1.0	4.9	0.0	0.0	0.0	0.0	0.0
1-84-05-4038	Armor Tiles							
Oper. capability	41.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0
1-92-05-4421	Engine Access Door Lift							
Oper. capability	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1-90-05-4300	TOW Subsystem Support Equipment							
Oper. capability	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0
1-96-05-4510	TOW Mod for AO BFVS							
Oper. capability	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1-96-05-4514	Suite of Survivability Enhancement Systems (No P3a Set)							
Oper. capability	0.0	0.0	0.0	0.0	13.0	13.0	11.4	10.3
Not Applicable	A3 Improvements (No P3a Set)							
Oper. capability	0.0	0.0	0.0	0.0	45.8	44.5	53.7	55.4
1-96-05-4517	A2 Card Retrofit							
safety	0.0	0.8	0.2	0.0	0.0	0.0	0.0	0.0



MODIFICATION INSTALLATION SUMMARY										Date
										February 1997
(TOA, Dollars in Millions)										
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL	
No P3a Set for modification										
BFVS SERIES (MOD)										
GZ2400										
A1-A2 Conversion	72.1	8.4	13.5	11.0	0.0	0.0	0.0	0.0	105.0	
A2 ODS Mods	1.8	2.3	1.3	1.0	1.8	0.0	0.0	0.0	8.2	
Transmission Electronic Controller (TEC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OI Backup Sights/Periscopes	1.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	2.4	
ACU Pillow Block Mod	1.3	0.9	0.7	0.0	0.0	0.0	0.0	0.0	2.8	
Vehicle Intercom System	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DECA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
HALON Replacement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Armor Tiles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Engine Access Door Lift	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOW Subsystem Support Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOW Mod for AO BFVS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Suite of Survivability Enhancement Systems	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
A3 Improvements	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
A2 Card Retrofit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Totals	76.9	12.2	15.5	12.1	1.8	0.0	0.0	0.0	118.4	

INDIVIDUAL MODIFICATION		Date	February 1997																																		
MODIFICATION TITLE:	A1-A2 Conversion 1-84-05-4038																																				
MODELS OF SYSTEMS AFFECTED:	M2A1 (IFV) / M3A1 (CFV)																																				
DESCRIPTION / JUSTIFICATION:	<p>The BFVS conversion effort converts the A1 configuration to an A2 configuration.</p> <p>The conversion effort includes:</p> <ol style="list-style-type: none"> <li>1. High Survivability (HS) Kit which will enhance vehicle survivability through the application of alternate armor and selective use of crew compartment spill liners for increased protection against threat from frontal attack. The HS kit also contains other associated changes such as restowage, swim curtain, IFV firing ports, and M240 gun upright.</li> <li>2. The 600HP power pack, which includes the 600 HP engine and the reliability improved 500-3 Transmission which eliminates the adverse impact of increased vehicle weight on vehicle performance and reliability, resulting from High Survivability changes.</li> </ol>																																				
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">HS KITS 1Q86</th> <th colspan="2">ACCOMPLISHED</th> </tr> <tr> <th>600HP ENGINE 4Q87</th> <th>500-3 TRANSMISSION 1Q87</th> </tr> </thead> <tbody> <tr> <td>Preliminary Design Review:</td> <td>1Q86</td> <td>1Q89</td> <td>2Q88</td> </tr> <tr> <td>Critical Design Review:</td> <td>3Q87</td> <td>3Q88</td> <td>2Q88</td> </tr> <tr> <td>Contractor Test and Evaluation:</td> <td>4Q87</td> <td>4Q88</td> <td>2Q88</td> </tr> <tr> <td>Development Test and Evaluation:</td> <td>3Q87</td> <td>NA</td> <td>4Q89</td> </tr> <tr> <td>Initial Operational Test and Evaluation:</td> <td>4Q87</td> <td>1Q89</td> <td>NA</td> </tr> <tr> <td>IPR Production Decision</td> <td>1Q89</td> <td>1Q89</td> <td>2Q88</td> </tr> <tr> <td>TDP Available:</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				HS KITS 1Q86	ACCOMPLISHED		600HP ENGINE 4Q87	500-3 TRANSMISSION 1Q87	Preliminary Design Review:	1Q86	1Q89	2Q88	Critical Design Review:	3Q87	3Q88	2Q88	Contractor Test and Evaluation:	4Q87	4Q88	2Q88	Development Test and Evaluation:	3Q87	NA	4Q89	Initial Operational Test and Evaluation:	4Q87	1Q89	NA	IPR Production Decision	1Q89	1Q89	2Q88	TDP Available:			
	HS KITS 1Q86	ACCOMPLISHED																																			
		600HP ENGINE 4Q87	500-3 TRANSMISSION 1Q87																																		
Preliminary Design Review:	1Q86	1Q89	2Q88																																		
Critical Design Review:	3Q87	3Q88	2Q88																																		
Contractor Test and Evaluation:	4Q87	4Q88	2Q88																																		
Development Test and Evaluation:	3Q87	NA	4Q89																																		
Initial Operational Test and Evaluation:	4Q87	1Q89	NA																																		
IPR Production Decision	1Q89	1Q89	2Q88																																		
TDP Available:																																					

INDIVIDUAL MODIFICATION																				
MODIFICATION TITLE (Cont): A1-A2 Conversion 1-84-05-4038																				
FINANCIAL PLAN: (\$ in Millions)																				
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
High Survivability kits	1358	187.9		1.2															1358	189.1
600 HP Engine	1317	45.6	41	1.9															1358	47.5
500-3 Transmission	1358	39.2																	1358	39.2
Engineering Change Orders		0.9																		0.9
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	957	72.1	98	8.4	168	13.5	94	7.7											1317	101.7
FY 1997 Eqpt -- Kits							41	3.3											41	3.3
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost	957	72.1	98	8.4	168	13.5	135	11.0											1358	105.0
Total Procurement Cost		345.7		11.5		13.5		11.0												381.7
METHOD OF IMPLEMENTATION: Depot Conversion																				
Contract Dates:				ADMINISTRATIVE LEADTIME:				6 Months				PRODUCTION LEADTIME:				12 Months				
Delivery Date:				FY 1997: Jan 97				FY 1998:				FY 1999:				FY 1999:				
				FY 1997:				FY 1998:				FY 1999:								

Installation Schedule: A1-A2 Conversion 1-84-05-4038

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		Total
	FY 1996	& Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		
<b>Inputs</b>																					
FY 1996 & Prior	887	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	1317
FY 1997							32														41
FY 1998																					
FY 1999																					
<b>Outputs</b>																					
FY 1996 & Prior	887	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	1317
FY 1997							32														41
FY 1998																					
FY 1999																					
<b>Inputs</b>																					
FY 2000			1	2	3	4	4	1	2	3	4	1	2	3	4	1	2	3	4	1	Total
FY 2001																					
FY 2002																					
FY 2003																					
<b>Outputs</b>																					
FY 2000																					
FY 2001																					
FY 2002																					
FY 2003																					

Remarks:

Bankruptcy of prime High Survivability kit producer contractor forced replacement of kits procured with prior year funds and associated delay in application.

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		A2 ODS Mods 1-92-05-4404	
MODELS OF SYSTEMS AFFECTED:		M2A2/M3A2	
DESCRIPTION / JUSTIFICATION:			
<p>Six vehicle improvements (ECP's) which will correct deficiencies identified in Operation Desert Storm. These increase vehicle lethality and survivability and situational awareness.</p> <ol style="list-style-type: none"> <li>Laser Range Finder: will give the BFVS a first burst on target capability and reduce the time required to acquire and kill a target.</li> <li>Position Navigation System: Global Positioning System (GPS) integrating hardware and a self calibrating digital compass. This will enable the Bradley commander to determine his exact location at all times and determine the heading and distance to any location.</li> <li>Equipment Restow Improvement: Improves the method of stowing internal and external equipment.</li> <li>Combat Identification System (CID): Provides integration hardware for the passive CID system that will provide visual and thermal signatures detectable between ground to ground vehicles and from air to ground.</li> <li>Driver's Thermal Viewer: Increases the driver's ability to see through battlefield obscurants such as dust, fog and smoke during night and day.</li> <li>Missile Countermeasure Device: Provides additional protection against a variety of anti tank missiles.</li> </ol> <p>Additionally, included in this effort are Armored Hatches to further improve vehicle survivability.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
	4Q93	4Q93	
Critical Design Review:	2Q94	2Q94	
Contractor Test and Evaluation:	3Q94	3Q94	
Development Test and Evaluation:	4Q94	1Q95	
Initial Operational Test and Evaluation:	1Q95	1Q95	
IPR Production Decision	2Q95	2Q95	





Installation Schedule: A2 ODS Mods 1-92-05-4404													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
<b>Inputs</b>													
FY 1996 & Prior		28	154	154	154	77							
FY 1997						77	112	112	112	2			
FY 1998						110	72	72	46				
FY 1999									26	71	58	58	
<b>Outputs</b>													
FY 1996 & Prior		28	154	154	154	77							
FY 1997						77	112	112	112	2			
FY 1998						110	72	72	46				
FY 1999									26	71	58	58	
<b>Inputs</b>													
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4
FY 2001													
FY 2002													
FY 2003													
<b>Outputs</b>													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
<b>Remarks:</b>													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Transmission Electronic Controller (TEC) 1-90-05-4282	
MODELS OF SYSTEMS AFFECTED:		M2A2/M3A2	
DESCRIPTION / JUSTIFICATION:		<p>The Transmission Electronic Controller (TEC) replaces the hydromechanical transmission control with an electromechanical control. the TEC directly improves transmission maintainability and reliability. The control features of TEC will provide improved acceleration, fuel utilization and hot and cold performance, and better low speed maneuverability.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Preliminary Design Review:		NA	
Critical Design Review:		NA	
Contractor Test and Evaluation:		NA	
Development Test and Evaluation:		NA	
Initial Operational Test and Evaluation:		NA	
IPR Production Decision		2Q94	2Q94
TDP Available:		2Q94	2Q94

MODIFICATION TITLE (Cont): Transmission Electronic Controller (TEC) 1-90-05-4282

Date February 1997

FINANCIAL PLAN: (\$ in Millions)

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity	333	5.8	256	4.1	237	3.8	208	3.4											1034	17.1
Installation Kits																				
Installation Kits Nonrecurring Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
APPLICATION IS BUDGETED AS PART OF THE A2 ODS PROGRAM																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY (TC) Eqpt (xx kits)																				
Total Installation Cost		5.8		4.1		3.8		3.4												17.1
Total Procurement Cost																				

METHOD OF IMPLEMENTATION: Contractor/Depot/field mod ADMINISTRATIVE LEADTIME: 6 Months PRODUCTION LEADTIME: 8 Months  
 Contract Dates: FY 1997: Dec 96 FY 1998: Dec 98  
 Delivery Date: FY 1997: Aug 97 FY 1998: Aug 98 FY 1999: Aug 99

Installation Schedule: Transmission Electronic Controller (TEC) 1-90-05-4282

	FY 1996 & Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Inputs	28	76	76	76	77	77	76	76	27	57	68	68	44	24	68	58	58																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</

Remarks: Installation occurs during application of ODS mods by contractor & depot.

INDIVIDUAL MODIFICATION		Date	February 1987
MODIFICATION TITLE:		OI Backup Sights/Periscopes 1-86-05-4115	
MODELS OF SYSTEMS AFFECTED:		M2A2/M3A2	
DESCRIPTION / JUSTIFICATION:			
This materiel change will add a filter to the present configuration of the Unity Vision Block (periscopes) and the Backup Sight to provide eye protection for the crew against near-term lasers.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED 2Q87	ACCOMPLISHED 2Q87	
Critical Design Review:	3Q87	3Q87	
Contractor Test and Evaluation:	4Q88	4Q88	
Development Test and Evaluation:	2Q88	2Q88	
Initial Operational Test and Evaluation:	NA	NA	
IPR Production Decision	4Q89	4Q89	
TDP Available:	2Q90	3Q90	

MODIFICATION TITLE (Cont): OI Backup Sights/Periscopes 1-86-05-4115

Date February 1997

FINANCIAL PLAN: (\$ in Millions)

	FY 1996 and Prior	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
RDT&E										
PROCUREMENT										
Kit Quantity										
Installation Kits	2499									2499
Installation Kits Nonrecurring Equipment										
Equipment Nonrecurring										
Engineering Change Orders										
Data										
Training Equipment										
Support Equipment										
Other										
Interim Contractor Support										
Installation of Hardware										
FY 1996 & Prior Eqpt -- Kits	1678	821	0.7							2499
FY 1997 Eqpt -- Kits										
FY 1998 Eqpt -- Kits										
FY 1999 Eqpt -- Kits										
FY 2000 Eqpt -- kits										
FY 2001 Eqpt -- kits										
FY 2002 Eqpt -- kits										
FY 2003 Eqpt -- kits										
(FY(TC) Eqpt (xx kits)										
Total Installation Cost	1678	821	0.7							2499
Total Procurement Cost										
	19.5		0.7							20.2

METHOD OF IMPLEMENTATION: Contractor field teams

Contract Dates: FY 1997: Jun 97

Delivery Date: FY 1997:

ADMINISTRATIVE LEADTIME: FY 1998: FY 1998:

PRODUCTION LEADTIME: FY 1998: FY 1999:





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	ACU Pillow Block Mod 1-91-05-4314		
MODELS OF SYSTEMS AFFECTED:	TOW 2 SUBSYSTEM		
DESCRIPTION / JUSTIFICATION:	<p>This block modification combines 5 class 1 ECPs into a consolidated block ACU package. The ACU is part of the TOW missile launcher. These modifications will seal against moisture and eliminate pillow block associated damage to the ACU which can result in critical failures of the TOW weapon system package.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
Critical Design Review:	NA	NA	
Contractor Test and Evaluation:	NA	NA	
Development Test and Evaluation:	NA	NA	
Initial Operational Test and Evaluation:	NA	NA	
IPR Production Decision	1Q92	1Q92	
TDP Available:	NA	NA	

INDIVIDUAL MODIFICATION																	
ACU Pillow Block Mod 1-91-05-4314																	
MODIFICATION TITLE (Cont):																	
FINANCIAL PLAN: (\$ in Millions)																	
FY 1996 and Prior	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																	
PROCUREMENT																	
Kit Quantity																	
Installation Kits																	
Installation Kits Nonrecurring																	
Equipment	4275	4.4													4275	4.4	
Equipment Nonrecurring																	
Engineering Change Orders																	
Data																	
Training Equipment																	
Support Equipment																	
Other																	
Interim Contractor Support																	
Installation of Hardware																	
FY 1996 & Prior Eqpt -- Kits	1874	1.3	1335	0.9	1066	0.7									4275	2.8	
FY 1997 Eqpt -- Kits																	
FY 1998 Eqpt -- Kits																	
FY 1999 Eqpt -- Kits																	
FY 2000 Eqpt -- kits																	
FY 2001 Eqpt -- kits																	
FY 2002 Eqpt -- kits																	
FY 2003 Eqpt -- kits																	
(FY (TC) Eqpt (xx kits)																	
Total Installation Cost	1874	1.3	1335	0.9	1066	0.7									4275	2.8	
Total Procurement Cost		5.7		0.9		0.7										7.2	

METHOD OF IMPLEMENTATION: Contractor teams

Contract Dates: FY 1997: Feb 97

Delivery Date: FY 1997:

ADMINISTRATIVE LEADTIME: 35827

FY 1998: 35827

FY 1998:

PRODUCTION LEADTIME:

FY 1999:

FY 1999:

Installation Schedule:    ACU Pillow Block Mod 1-91-05-4314													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior		1874	334	334	334	333	267	266	267	266			
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior		1874	334	334	334	333	267	266	267	266			
FY 1997													
FY 1998													
FY 1999													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Vehicle Intercom System 1-90-05-4284			
MODELS OF SYSTEMS AFFECTED: A2 ODS M2/M3			
DESCRIPTION / JUSTIFICATION:			
<p>The VIS system is a replacement for the AN/VIC-1 intercom system. It is a digital intercom system which provides internal communications as well as access to the vehicle radios. This is a non-developmental item to be applied to the A2 ODS vehicles.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	NA
Critical Design Review:	NA		NA
Contractor Test and Evaluation:	NA		NA
Development Test and Evaluation:	NA		NA
Initial Operational Test and Evaluation:	2Q95		2Q95
IPR Production Decision	3Q95		3Q95
TDP Available:	NA		NA

INDIVIDUAL MODIFICATION																					
Vehicle Intercom System 1-90-05-4284																					
MODIFICATION TITLE (Cont):																					
FINANCIAL PLAN: (\$ In Millions)																					
	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity	553	8.5	262	3.4	218	2.2													1033	14.0	
Installation Kits																					
Installation Kits Nonrecurring Equipment																					
Equipment Nonrecurring																					
Engineering Change Orders																					
Data																					
Training Equipment																					
Support Equipment																					
Other																					
Interim Contractor Support																					
Installation of Hardware																					
APPLICATION SCHEDULED AND BUDGETED AS PART OF A2 ODS APPLICATION																					
FY 1996 & Prior Eqpt -- Kits																					
FY 1997 Eqpt -- Kits																					
FY 1998 Eqpt -- Kits																					
FY 1999 Eqpt -- Kits																					
FY 2000 Eqpt -- kits																					
FY 2001 Eqpt -- kits																					
FY 2002 Eqpt -- kits																					
FY 2003 Eqpt -- kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost																					
Total Procurement Cost		8.5		3.4		2.2															14.0

METHOD OF IMPLEMENTATION: Contractor/Depot			
FY 1997:	Mar 97	FY 1998:	Mar 98
FY 1997:	Sep 97	FY 1998:	Sep 98
ADMINISTRATIVE LEADTIME: 6 Months			
PRODUCTION LEADTIME: 6 Months			
Contract Dates:		FY 1999: Mar 99	
Delivery Date:		FY 1999: Sep 99	

Installation Schedule: Vehicle Intercom System 1-90-05-4284																				
FY 1996		FY 1997			FY 1998			FY 1999			FY 2000			February 1997						
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs																				
FY 1996 & Prior	28	70	70	70	71	84	84	76												
FY 1997								8	84	68	68	34								553
FY 1998												34	68	58	58					262
FY 1999																				218
Outputs																				
FY 1996 & Prior	28	70	70	70	71	84	84	76												553
FY 1997								8	84	68	68	34								262
FY 1998												34	68	58	58					218
FY 1999																				
Inputs																				
FY 2000		FY 2001			FY 2002			FY 2003			FY 2004			FY 2005						
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Outputs																				
FY 2000		FY 2001			FY 2002			FY 2003			FY 2004			FY 2005						
FY 2000		FY 2001			FY 2002			FY 2003			FY 2004			FY 2005						
FY 2001		FY 2002			FY 2003			FY 2004			FY 2005									
FY 2002		FY 2003			FY 2004			FY 2005												
FY 2003		FY 2004			FY 2005															
Remarks:																				

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	DECA 1-93-05-4441		
MODELS OF SYSTEMS AFFECTED:	M2A2/M3A2		
DESCRIPTION / JUSTIFICATION:	<p>The DECA is the microprocessor based controller of the turret drive system. It transfers signals from crew and sensor inputs to the appropriate subsystem to execute a specific task. The DECA replaces the Electronic Control Assembly (ECA) and provides built in testing, improved reliability and elimination of hull and turret gyro.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
Critical Design Review:	NA		
Contractor Test and Evaluation:	NA		
Development Test and Evaluation:	NA		
Initial Operational Test and Evaluation:	NA		
IPR Production Decision	3Q89		3Q89
TDP Available:	3Q89		3Q89

INDIVIDUAL MODIFICATION														
MODIFICATION TITLE (Cont): DECA 1-93-05-4441														
Date February 1997														
FINANCIAL PLAN: (\$ in Millions)														
	FY 1996 and Prior	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL				
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
RDT&E														
PROCUREMENT														
Kit Quantity														
Installation Kits														
Installation Kits Nonrecurring														
Equipment	450	11.5	233	5.7	54	1.4	104	2.7					841	21.2
Equipment Nonrecurring														
Engineering Change Orders														
Data														
Training Equipment														
Support Equipment														
Other														
Interim Contractor Support														
APPLICATION BUDGETED AS PART OF A1-A2 CONVERSION AND A2 ODS APPLICATION														
Installation of Hardware														
FY 1996 & Prior Eqpt -- Kits														
FY 1997 Eqpt -- Kits														
FY 1998 Eqpt -- Kits														
FY 1999 Eqpt -- Kits														
FY 2000 Eqpt -- Kits														
FY 2001 Eqpt -- Kits														
FY 2002 Eqpt -- Kits														
FY 2003 Eqpt -- Kits														
(FY(TC) Eqpt (xx kits)														
Total Installation Cost														
Total Procurement Cost	11.5	5.7	1.4	2.7										21.2
METHOD OF IMPLEMENTATION: Contractor & Depot														
Contract Dates:	FY 1997:	Mar 97	Nov 97	FY 1998:	Mar 98	Nov 98	FY 1999:	Mar 99	Nov 99	8	Months			
Delivery Date:	FY 1997:	Mar 97	Nov 97	FY 1998:	Mar 98	Nov 98	FY 1999:	Mar 99	Nov 99	8	Months			



Installation Schedule: DECA 1-93-05-4441															
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4	1	2
Inputs															
FY 1996 & Prior		26	25	30	30	30	84	84	84	57					
FY 1997						27	75	75	54	2					
FY 1998										52	2				
FY 1999										51	53				
Outputs															
FY 1996 & Prior		26	25	30	30	30	84	84	84	57					
FY 1997						27	75	75	54	2					
FY 1998										52	2				
FY 1999										51	53				
Inputs															
FY 2000		1	2	3	4	4	1	2	3	4	1	2	3	4	1
FY 2001															
FY 2002															
FY 2003															
Outputs															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
Remarks:															

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		HALON Replacement 1-92-05-4422	
MODELS OF SYSTEMS AFFECTED:		Bradley Fighting Vehicle System	
DESCRIPTION / JUSTIFICATION:			
<p>The Halon replacement program is in response to DOD and Army policy to eliminate the unnecessary release of Halon into the atmosphere. This program will provide an alternate agent to use in the BFV engine compartment fire extinguishers.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED 3Q95	ACCOMPLISHED 1Q96	
Critical Design Review:	4Q96	1Q97	
Contractor Test and Evaluation:	NA	NA	
Development Test and Evaluation:	4Q96		
Initial Operational Test and Evaluation:	NA	NA	
IPR Production Decision	2Q97		
Approve ECP:	2Q97		

INDIVIDUAL MODIFICATION																																																																																																																							
MODIFICATION TITLE (Cont): HALON Replacement 1-92-05-4422																																																																																																																							
FINANCIAL PLAN: (\$ in Millions)																																																																																																																							
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL																																																																																																					
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$																																																																																																				
RDT&E																																																																																																																							
PROCUREMENT																																																																																																																							
Kit Quantity																																																																																																																							
Installation Kits																																																																																																																							
Installation Kits Nonrecurring																																																																																																																							
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Total Procurement Cost																																																																																																																							
<table border="0"> <tr> <td colspan="10">METHOD OF IMPLEMENTATION: Contractor teams</td> <td colspan="10">ADMINISTRATIVE LEADTIME:</td> </tr> <tr> <td colspan="10">FY 1997: Aug 97</td> <td colspan="10">FY 1998: Mar 98</td> </tr> <tr> <td colspan="10">FY 1997: N/A</td> <td colspan="10">FY 1998: N/A</td> </tr> <tr> <td colspan="10">Delivery Date:</td> <td colspan="10">PRODUCTION LEADTIME:</td> </tr> <tr> <td colspan="10"></td> <td colspan="10">12 Months</td> </tr> </table>																				METHOD OF IMPLEMENTATION: Contractor teams										ADMINISTRATIVE LEADTIME:										FY 1997: Aug 97										FY 1998: Mar 98										FY 1997: N/A										FY 1998: N/A										Delivery Date:										PRODUCTION LEADTIME:																				12 Months									
METHOD OF IMPLEMENTATION: Contractor teams										ADMINISTRATIVE LEADTIME:																																																																																																													
FY 1997: Aug 97										FY 1998: Mar 98																																																																																																													
FY 1997: N/A										FY 1998: N/A																																																																																																													
Delivery Date:										PRODUCTION LEADTIME:																																																																																																													
										12 Months																																																																																																													
4.3		1.0		4.9												70.6		80.9																																																																																																					



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Armor Tiles 1-84-05-4038	
MODELS OF SYSTEMS AFFECTED:		M2A2(IFV)/M3A2(CFV)	
DESCRIPTION / JUSTIFICATION:			
<p>Armor tiles are one of the High Survivability improvements to the BFVS. The tiles provide increased armor protection for shaped charge threats, including hand held heat and other classes of warheads as specified in the BFVS material need area. There are 5 configurations of tiles covering the vehicle front, sides and turret.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
	NA		
Critical Design Review:	3Q90		3Q90
Contractor Test and Evaluation:	NA		
Development Test and Evaluation:	NA		
Initial Operational Test and Evaluation:	NA		
IPR Production Decision	2Q92		2Q93
TDP Available:	NA		

Armor Tiles 1-84-05-4038

MODIFICATION TITLE (Cont):

FINANCIAL PLAN: (\$ In Millions)

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		4.0																		4.0
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment	142	34.3	104	33.0															246	67.3
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other		6.7		2.5																9.2
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost																				
Total Procurement Cost		41.0		35.5																76.5

METHOD OF IMPLEMENTATION: Troop Installed  
 Contract Dates: FY 1997: Mar 97  
 Delivery Date: FY 1997:

ADMINISTRATIVE LEADTIME: 6 Months  
 FY 1998: FY 1998:  
 FY 1999: FY 1999:

PRODUCTION LEADTIME: 6 Months  
 FY 1999: FY 1999:

Installation Schedule:    Armor Tiles 1-84-05-4038													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Inputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Remarks:													
Armor Tiles will be installed by troops.													

INDIVIDUAL MODIFICATION		Date	February 1997																
MODIFICATION TITLE:		Engine Access Door Lift 1-92-05-4421																	
MODELS OF SYSTEMS AFFECTED:		M2A2(IFV)/M3A2(CFV)																	
DESCRIPTION / JUSTIFICATION:		<p>This is the last of a group of four modifications to correct four deficiencies identified during Desert Storm. The Engine Access Door Lift Mechanism is a redesigned pump to eliminate failures encountered when raising the armored engine access door.</p>																	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="1"> <thead> <tr> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>1Q92</td> <td>1Q92</td> </tr> <tr> <td>2Q92</td> <td>2Q92</td> </tr> <tr> <td>3Q92</td> <td>3Q92</td> </tr> <tr> <td>3Q92</td> <td>3Q92</td> </tr> <tr> <td>3Q92</td> <td>3Q92</td> </tr> <tr> <td>3Q94</td> <td>3Q94</td> </tr> <tr> <td>3Q94</td> <td>3Q94</td> </tr> </tbody> </table>	PLANNED	ACCOMPLISHED	1Q92	1Q92	2Q92	2Q92	3Q92	3Q92	3Q92	3Q92	3Q92	3Q92	3Q94	3Q94	3Q94	3Q94	<p>Preliminary Design Review:</p> <p>Critical Design Review:</p> <p>Contractor Test and Evaluation:</p> <p>Development Test and Evaluation:</p> <p>Initial Operational Test and Evaluation:</p> <p>IPR Production Decision</p> <p>TDP Available:</p>
PLANNED	ACCOMPLISHED																		
1Q92	1Q92																		
2Q92	2Q92																		
3Q92	3Q92																		
3Q92	3Q92																		
3Q92	3Q92																		
3Q94	3Q94																		
3Q94	3Q94																		



INDIVIDUAL MODIFICATION														Date	February 1997								
MODIFICATION TITLE (Cont): Engine Access Door Lift 1-92-05-4421																							
FINANCIAL PLAN: (\$ In Millions)																							
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL					
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$				
2000																		2000					
2.6																		2.6					
RDT&E PROCUREMENT Kit Quantity Installation Kits Installation Kits Nonrecurring Equipment Equipment Nonrecurring Engineering Change Orders Data Training Equipment Support Equipment Other Interim Contractor Support																							
THE ENGINE ACCESS DOOR LIFT MOD APPLICATION IS SCHEDULED AND BUDGETED IN A1-A2 CONVERSION AND A2QDS MOD																							
Installation of Hardware FY 1996 & Prior Eqpt -- Kits FY 1997 Eqpt -- Kits FY 1998 Eqpt -- Kits FY 1999 Eqpt -- Kits FY 2000 Eqpt -- kits FY 2001 Eqpt -- kits FY 2002 Eqpt -- kits FY 2003 Eqpt -- kits (FY(TC) Eqpt (xx kits) Total Installation Cost Total Procurement Cost																							
2.6																		2.6					
METHOD OF IMPLEMENTATION: Contractor & depot																ADMINISTRATIVE LEADTIME:				PRODUCTION LEADTIME:			
Contract Dates:																FY 1998:				FY 1999:			
Delivery Date:																FY 1998:				FY 1999:			



INDIVIDUAL MODIFICATION		Date	February 1997																
MODIFICATION TITLE:		TOW Subsystem Support Equipment 1-90-05-4300																	
MODELS OF SYSTEMS AFFECTED:		TOW 2 SUBSYSTEM SUPPORT EQUIPMENT																	
DESCRIPTION / JUSTIFICATION:		<p>This modification combines 20 class 1 ECPs into a consolidated Block modification which will expand the capabilities and life cycle of the TOW support equipment and bring all assets to a uniform configuration. Benefits include reduced diagnostic spares, improved reliability, and improved user awareness of handling/lifting restrictions of MIL-STD-1472C.</p>																	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="1"> <thead> <tr> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> </tr> <tr> <td>NA</td> <td>NA</td> </tr> <tr> <td>NA</td> <td>NA</td> </tr> <tr> <td>NA</td> <td>NA</td> </tr> <tr> <td>NA</td> <td>NA</td> </tr> <tr> <td>1Q92</td> <td>1Q92</td> </tr> <tr> <td>NA</td> <td>NA</td> </tr> </tbody> </table>	PLANNED	ACCOMPLISHED	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1Q92	1Q92	NA	NA	
PLANNED	ACCOMPLISHED																		
NA	NA																		
NA	NA																		
NA	NA																		
NA	NA																		
NA	NA																		
1Q92	1Q92																		
NA	NA																		
Preliminary Design Review:																			
Critical Design Review:																			
Contractor Test and Evaluation:																			
Development Test and Evaluation:																			
Initial Operational Test and Evaluation:																			
IPR Production Decision																			
TDP Available:																			

INDIVIDUAL MODIFICATION														
TOW Subsystem Support Equipment 1-90-05-4300														
MODIFICATION TITLE (Cont):														
FINANCIAL PLAN: (\$ In Millions)														
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL				
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
RDT&E														
PROCUREMENT														
Kit Quantity														
Installation Kits														
Installation Kits Nonrecurring														
Equipment		597											597	6.7
Equipment Nonrecurring														
Engineering Change Orders														
Data														
Training Equipment														
Support Equipment														
Other														
Interim Contractor Support														
Installation of Hardware														
FY 1996 & Prior Eqpt -- Kits														
FY 1997 Eqpt -- Kits														
FY 1998 Eqpt -- Kits														
FY 1999 Eqpt -- Kits														
FY 2000 Eqpt -- kits														
FY 2001 Eqpt -- kits														
FY 2002 Eqpt -- kits														
FY 2003 Eqpt -- kits														
(FY(TC) Eqpt (xx kits)														
Total Installation Cost														
Total Procurement Cost														6.7

METHOD OF IMPLEMENTATION: Contractor

Contract Dates: FY 1997: Mar 97 FY 1998: Mar 98

Delivery Date: FY 1997: Mar 98 FY 1998: Mar 98

ADMINISTRATIVE LEADTIME: 6 Months

PRODUCTION LEADTIME: 12 Months



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	TOW Mod for AO BFVS 1-96-05-4510		
MODELS OF SYSTEMS AFFECTED:	M2AO(IFV)/M3AO(CFV)		
DESCRIPTION / JUSTIFICATION:	<p>This modification is for procurement and application of modification kits to the Bradley AO TOW Subsystem (TSS) and associated TOW subsystem Test Sets (TSS-TS) to provide the capability to fire and guide the TOW 2 family of missiles. This mod increases system lethality by incorporating optimized flight algorithms for the TOW 2A and TOW 2b missiles when fired from Bradley AO vehicles.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
	NA	NA	
Critical Design Review:	NA	NA	
Contractor Test and Evaluation:	NA	NA	
Development Test and Evaluation:	NA	NA	
Initial Operational Test and Evaluation:	NA	NA	
IPR Production Decision	NA	NA	
TDP Available:	4Q96	4Q96	

INDIVIDUAL MODIFICATION														
Date February 1997														
MODIFICATION TITLE (Cont): TOW Mod for AO BFVS 1-96-05-4510														
FINANCIAL PLAN: (\$ in Millions)														
FY 1996 and Prior	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL					
Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
RDT&E														
PROCUREMENT														
Kit Quantity														
Installation Kits														
Installation Kits Nonrecurring Equipment	369											369		10.7
Equipment Nonrecurring Engineering Change Orders														
Data														
Training Equipment														
Support Equipment														2.4
Other														
Interim Contractor Support														
Installation of Hardware														
FY 1996 & Prior Eqpt -- Kits														
FY 1997 Eqpt -- Kits														
FY 1998 Eqpt -- Kits														
FY 1999 Eqpt -- Kits														
FY 2000 Eqpt -- kits														
FY 2001 Eqpt -- kits														
FY 2002 Eqpt -- kits														
FY 2003 Eqpt -- kits														
(FY(TC) Eqpt (xx kits)														
Total Installation Cost														
Total Procurement Cost	13.1													13.1
METHOD OF IMPLEMENTATION: Contractor														
Contract Dates: FY 1997: 12 Months														
Delivery Date: FY 1997: 12 Months														
ADMINISTRATIVE LEADTIME: 12 Months														
PRODUCTION LEADTIME: 12 Months														
FY 1999: 12 Months														
FY 1999: 12 Months														





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		A2 Card Retrofit 1-96-05-4517	
MODELS OF SYSTEMS AFFECTED:		TOW 2 Subsystem (T2SS) Missile Guidance System (MGS)	
DESCRIPTION / JUSTIFICATION:		<p>The relay/squib circuit card assembly (CCA) controls the power up/power down functions of the MGS and provides indications of missile launch, flight status and modes of operation. It also generates the PREFIRE and FIRE squib control signals required to launch the missile and the WIRECUT squib control signal used to cut the missile guidance wires. This mod will add a semiconductor device diode across resistor "R39" on the A2 CCA to increase the speed of discharge for capacitor C21 and to prevent an inadvertent missile launch.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Examples	Preliminary Design Review:	N/A	N/A
	Critical Design Review:	N/A	N/A
	Contractor Test and Evaluation:	N/A	N/A
	Development Test and Evaluation:	N/A	N/A
	Initial Operational Test and Evaluation:	N/A	N/A
	IPR Production Decision	Oct-96	Oct-96
	TDP Available:	Oct-96	Oct-96

## Date February 1997

**A2 Card Retrofit 1-96-05-4517**

**MODIFICATION TITLE (Cont):**

**FINANCIAL PLAN: (\$ in Millions)**

	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL
	\$ Qty	\$ Qty	\$ Qty	\$ Qty	\$ Qty	\$ Qty	\$ Qty	\$ Qty	\$ Qty	\$ Qty
RDT&E										
PROCUREMENT										
Kil Quantity										
Installation Kits										
Installation Kits Nonrecurring Equipment	2401	0.8	857	0.2						3258 1.0
Equipment Nonrecurring Engineering Change Orders Data Training Equipment Support Equipment Other Interim Contractor Support Installation of Hardware										
FY 1996 & Prior Eqpt -- Kilis										
FY 1997 Eqpt -- Kilis										
FY 1998 Eqpt -- Kilis										
FY 1999 Eqpt -- Kilis										
FY 2000 Eqpt -- Kilis										
FY 2001 Eqpt -- Kilis										
FY 2002 Eqpt -- Kilis										
FY 2003 Eqpt -- Kilis (FY(TC) Eqpt (xx kilis)										
Total Installation Cost										
Total Procurement Cost		0.8	0.2							1.0

**METHOD OF IMPLEMENTATION:** contractor applied

**Contract Dates:**

**Delivery Date:**

**ADMINISTRATIVE LEADTIME:**

	FY 1998:
May 97	

Enter Date Here FY 1998:

9 Months

May 98

**Enter Date Here**

**PRODUCTION LEADTIME: 2 Months**

PRODUCTION LEADTIME:      Enter Date Here

FY 1999:  Enter Date Here  
 FY 1999:  Enter Date Here



BUDGET ITEM JUSTIFICATION SHEET						DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE					
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles		HOWITZER, MED SP FT 155MM M109A6 (MOD) (GA0400)					
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
QUANTITY							
COST (in millions)	282.0	105.9	18.7	11.5	4.4	0.0	0.0
<p>DESCRIPTION: Funds the procurement of approved modifications to the 155MM M109 Self-Propelled Howitzer (See detailed description/justification on following exhibit P-3A).</p> <p>COOPERATIVE AGREEMENTS:</p> <p>The Government of the United States of America, as represented by the Department of the Army (DA), and the Government of Israel (GOI), as represented by the Ministry of Defense (MOD), agreed to cooperate on a joint development project to improve the M109 Series 155mm Self-Propelled Howitzer in November 1985. This program incorporated already developed items, together with items which were developed under contract, into prototype M109s. DA and MOD supplied their own M109s for prototype work. GOI funding for its share of the program was \$30.7 million over Fiscal Years (FY) 1986-1990. The U.S. Howitzer is currently in the full scale production phase and has been named the M109A6 Paladin. The U.S./Israeli Joint Development Agreement has expired effective with the Paladin Milestone III Full Scale Production Decision. The system developer, BMY, a Division of Harsco Corporation, was awarded a full scale engineering development contract in October 1985, and a low rate production contract in September 1990. In April 1993, FMC Corporation (now known as United Defense, Limited Partnership, Paladin Production Division) won a competitive multiyear procurement contract for full scale production of remaining Paladin requirements during FY 1993-1996 programs.</p>							



MODIFICATION INSTALLATION SUMMARY (TOA, Dollars in Millions)										Date February 1997
System/Modification	FY 1996 and Prior	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL	
<i>No P3a Set for modification</i>										
HOWITZER, MED SP FT 155MM M109A6 (MOD)										
GA0400	53.2	11.4	0.0	0.0	0.0	0.0	0.0	0.0	64.6	
Howitzer Improvement Program	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Chlorofluorocarbon (CFC) Elimination										
Totals	53.2	11.4	0.0	0.0	0.0	0.0	0.0	0.0	64.6	

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	Howitzer Improvement Program 1-81-05-1002		
MODELS OF SYSTEMS AFFECTED:	Howitzer, Med Sp Ft 155mm M109 Ser (Mod) (MYP).		
DESCRIPTION / JUSTIFICATION:	<p>The M109A6 Paladin, approved for full scale production, has been designed to upgrade the M109A2/A3 Howitzer's responsiveness, effectiveness, survivability; and Reliability, Availability, and Maintainability-Durability (RAM-D). This meets the user's urgent need for a product improved system that satisfies the deficiencies cited in these areas by the Mission Element Need Statement (MENS), approved by the Secretary of Defense in December 1980. The production phase of the program involves a combined effort between Letterkenny Army Depot and the contractor. M109A2/A3 Howitzers from CONUS and OCONUS field units are being shipped to Letterkenny Army Depot. Letterkenny removes traverse mechanism, disassembles the howitzer, reconditions turret components to be reset in the new turret, and overhauls/modifies the chassis to the Paladin configuration. The reconditioned turret components, and the overhauled/modified chassis with the new M284 Cannon and M182 Gun Mount manufactured by Watervliet and Rock Island Arsenal, respectively, are shipped to the contractor for final integration and assembly, and acceptance testing. The acquisition strategy for FY89/90-FY92 called for sole source contracts. A FY93-FY96 competitive multiyear production contract was awarded in April 1993. The fiscal program identified herein reflects the economies and efficiencies of a competitive multiyear contract strategy. An FY97 follow-on sole source single year contract for an additional 37 M109A6 Paladin Vehicles is planned for award to UDLP, the current full scale production producer.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:	<p>The M109A6 was approved for entry into full scale development in November 1984. At that time, DA decided to modify M109A2/A3 Howitzers to a HIP configuration. It was decided to merge the Howitzer Extended Life Program (HELP) into the HIP where kits from both programs would be applied to the M109A2/A3 Howitzer. The improved 155mm Self-Propelled Howitzer was approved for Type Classification-Low Rate Production (TC-LRP) and designated the M109A6 Howitzer following a Milestone III-A ASARC on 7 February 1990. In March 1993 a Milestone III Pre-ASARC review was chaired by the Assistant Secretary of the Army for Research, Development and Acquisition, and the M109A6 Paladin was approved for Type Classification-Standard and full rate production and deployment. This Milestone III approval is documented in Acquisition Decision Memorandum dated 9 April 1993. The Paladin production program is within schedule and, as of 1 February 1997, has successfully fielded 359 M109A6 Howitzers and all associated items of equipment.</p>		

	PLANNED	ACTUAL
Critical Design Review		2QFY86
Complete Prototype Qualification Testing (Vehicles 1 & 2)		4QFY88
Complete Technical Testing (TT) (Critical Subtests)		1QFY90
Milestone III-A (Type Classified-Low Rate Production) (TC-LRP)		2QFY90
First M109A6 Delivery		3QFY92
Follow-on Test & Evaluation (FOTE)		1QFY93
Milestone III Decision (Full Scale Production) (TC-FSP)		3QFY93
First Unit Equipped (FUE)		3QFY93
Depot Support Capability		1QFY95
Organic Maintenance Capability		4QFY95

INDIVIDUAL MODIFICATION														
MODIFICATION TITLE (Cont): Howitzer Improvement Program 1-81-05-1002														
Date: February 1997														
FINANCIAL PLAN: (\$ in Millions)														
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		149.4												
PROCUREMENT														
Kit Quantity	877		37											149.4
Equipment		698.6		49.2		5.0		0.8						
Equipment Nonrecurring		235.3		5.2										753.6
Engineering Change Orders		162.2		20.1				3.3		0.4				240.5
Data		11.4		2.0										186.0
Training Equipment		14.1												13.4
Vehicular Intercom System		9.2		0.5										14.1
Other		4.4		0.8										9.7
Project Management Admin		9.2		4.7				3.0						5.2
Fielding		9.8		12.0		7.3		4.4		4.0				16.9
Installation of Hardware														37.5
FY 1996 & Prior -- Kits														
FY 1997 Eqpt -- Kits	716	53.2	161	9.2										62.4
FY 1998 Eqpt -- Kits			37	2.2										2.2
FY 1999 Eqpt -- Kits														
FY 2000 Eqpt -- Kits														
FY 2001 Eqpt -- Kits														
FY 2002 Eqpt -- Kits														
FY 2003 Eqpt -- Kits														
(FY(TC) Eqpt (xx kits)														
Total Installation Cost	716	53.2	198	11.4										914
Total Procurement Cost		1,207.4		105.9		12.3		11.5		4.4				1,341.5

METHOD OF IMPLEMENTATION: Letterkenny Army Depot and System Contractor

Contract Dates:

FY 1997: Feb 1997

FY 1998:

FY 1999:

Delivery Date:

FY 1997: Dec 1998

FY 1998:

FY 1999:



Installation Schedule: Howitzer Improvement Program 1-81-05-1002																
		FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997		
		& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2
<b>Inputs</b>																
FY 1996 & Prior		555	54	54	54	54	52									
FY 1997							2	18	17							
FY 1998																
FY 1999																
Total																
<b>Outputs</b>																
FY 1996 & Prior		417	49	54	54	54	54	54	54	54	33					
FY 1997							7	18	12							
FY 1998																
FY 1999																
Total																
<b>Inputs</b>																
FY 2000																
FY 2001																
FY 2004																
FY 2005																
<b>Outputs</b>																
FY 2000																
FY 2001																
FY 2004																
FY 2005																
<b>Remarks:</b>																

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Chlorofluorocarbon (CFC) Elimination 1-96-05-1003			
MODELS OF SYSTEMS AFFECTED: M109A6 Paladin Howitzer.			
DESCRIPTION / JUSTIFICATION:			
<p>References: DOD Directive 6050.0; DA Policy Letter 200.90-1; AMC Regulation 70-68; Montreal Protocol of 1986.</p> <p>The previous references mandate the replacement of R-12 Freon, used in the current M109A6 Paladin's Microclimatic Cooling System (MCS), with a non-chlorofluorocarbon (CFC) substitute. This schedule is based on the premise that a freon replacement will be identified no later than January 1997.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
	3QFY97		
Critical Design Review	1QFY98		
Joint Government Contractor Test and Evaluation	2QFY98		
IPR Production Decision	2QFY98		
TDP Available	2QFY98		

INDIVIDUAL MODIFICATION														Date		February 1997			
MODIFICATION TITLE (Cont):														Chlorofluorocarbon (CFC) Elimination 1-96-05-1003					
FINANCIAL PLAN: (\$ in Millions)																			
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																			
PROCUREMENT																			
Retrofit Qty				120												794		914	
Hardware				5.9												40.6		46.5	
Testing				0.5														0.5	
Installation of Hardware																			
FY 1996 & Prior Eqpt--Kits																			
FY 1997 Eqpt--Kits																			
FY 1998 Eqpt--Kits																			
FY 1999 Eqpt--Kits																			
FY 2000 Eqpt--Kits																			
FY 2001 Eqpt--Kits																			
FY 2002 Eqpt--Kits																			
FY 2003 Eqpt--Kits																			
TC Eqpt--Kits																			
Total Installation Cost																			
Total Procurement Cost				6.4												914		2.4	
																		49.4	

METHOD OF IMPLEMENTATION: Enter Method				ADMINISTRATIVE LEADTIME:				8 Months				PRODUCTION LEADTIME:				5 Months			
Contract Dates:				FY 1997:				FY 1998: Contract Mod -May 1998				FY 1999:				FY 1999:			
Delivery Date:				FY 1997:				FY 1998:				Oct 1998				FY 1999:			

Installation Schedule: Chlorofluorocarbon (CFC) Elimination 1-96-05-1003												
FY 1996 & Prior		FY 1997		FY 1998		FY 1999		FY 2000		February 1997		
1	2	3	4	1	2	3	4	1	2	3	4	Total
Inputs												
FY 1996 & Prior												
FY 1997												
FY 1998												
FY 1999												
Outputs												
FY 1996 & Prior												
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BUDGET ITEM JUSTIFICATION SHEET							DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE						
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Tracked Combat Vehicles		FAASV PIP TO FLEET (GA8010)						
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
	0	0	0	0	0	0	0	0
COST (in millions)	6.4	13.8	1.9	0.4	0.1	0.0	0.0	0.0
DESCRIPTION: Funds the procurement of approved modifications to the M992 Field Artillery Support Vehicle (See detailed Description/Justification on the following exhibit P-3A).								

## February 1997

### P-1 ITEM NOMENCLATURE

**FAASV PIP TO FLEET (GA8010)**

Budget Item Justification Sheet

MODIFICATION INSTALLATION SUMMARY									
									Date February 1997
(TOA, Dollars in Millions)									
System/Modification	PV FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
<i>No P3s Set for modification</i>									
FAASV PIP TO FLEET									
GA8010									
FAASV MATERIEL CHANGE (A2 Conversion)	15.4	2.6	0.0	0.0	0.0	0.0	0.0	0.0	18.0
FAASV HALON REPLACEMENT	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.3
Totals	15.4	2.6	0.0	0.3	0.0	0.0	0.0	0.0	18.3

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		FAASV MATERIEL CHANGE ( A2 Conversion) 1-93-05-4457	
MODELS OF SYSTEMS AFFECTED:		FAASV M992A2	
DESCRIPTION / JUSTIFICATION:			
<p>The FAASV materiel change encompasses the previously approved FAASV HELP (Howitzer Extended Life Program) and Survivability Materiel Changes. The materiel change incorporates M109 Family of Vehicles improvements into the FAASV in order to maintain a common chasis. These Improvements include the Low Heat Rejection/Cold Start Engine, improved XTG 411-4 Transmission, Reliability, and Maintainability (RAM) improvements to the cooling, electrical, and suspension systems, relocated heater and hydraulic reservoir, stronger fuel cell, and modifications to provide interoperability with the M109A6 Paladin Howitzer. The enhancements provided by the materiel change will permit the FAASV crew to operate in the same environment as the M109A6 Paladin. This means the operation and maintenance features will be common (i.e spares, repair parts, special tools, training) and the FAASV cold starting and RAM features will be comparable. The modifications to the rear door conveyor and propellant racks will improve M109A6 supportability.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Examples	PLANNED	ACCOMPLISHED	
Preliminary Design Review:		1QFY91	
Critical Design Review:		4QFY91	
Contractor Test and Evaluation:		2QFY93	
IPR Production Decision		3QFY93	
TDP Available:		3QFY93	
M992A2 First Delivery		3QFY94	
M992A First Unit Equipped		1QFY95	



INDIVIDUAL MODIFICATION																		Date	February 1997	
FAASV MATERIEL CHANGE ( A2 Conversion) 1-93-05-4457																				
MODIFICATION TITLE (Cont):																				
FINANCIAL PLAN: (\$ in Millions)																				
RDT&E PROCUREMENT	FY 1996 and Prior Qty	\$	FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
			Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
Kit Quantity	664																		664	42.4
Installation Kits		42.4																		11.8
Engineering Change Orders		10.2		0.1																1.7
Project Management Admin.		1.0		0.4																0.1
Testing		0.1																		9.1
Vehicular Intercom System				9.1																5.8
Fielding		3.5		0.6		0.1		0.1		0.1								1.3		
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits	462	15.4	79	2.6													123	5.0	664	23.0
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																				
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost	462	15.4	79	2.6													123	5.0	664	23.0
Total Procurement Cost		72.6		12.8		0.1		0.1		0.1								8.1		93.9
METHOD OF IMPLEMENTATION: Letter/Kennv Armv Depot & ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 9 Months																				
Contract Dates: FY 1997: Jan 97 FY 1998: FY 1999: FY 1999:																				
Delivery Date: FY 1997: Oct 97 FY 1998: FY 1999:																				

METHOD OF IMPLEMENTATION: Letterkennv Armv Depot & ADMINISTRATIVE LEADTIME: 4 Months PRODUCTION LEADTIME: 9 Months  
Contract Dates: FY 1997: Jan 97 FY 1998: FY 1999: FY 1999:  
Delivery Date: FY 1997: Oct 97 FY 1998: FY 1999:



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		FAASV HALON REPLACEMENT 1-94-05-4477	
MODELS OF SYSTEMS AFFECTED:		FAASV M992A2.	
DESCRIPTION / JUSTIFICATION:  References: DOD Directive 6050.0; DA Policy Letter 200.90-1; AMC Regulation 70-68; Montreal Protocol of 1986. The previous references mandate the replacement of Halon charged fire suppression systems to prevent ozone depletion. This schedule is based on the premise that a replacement chemical will be identified no later than 1QFY 97. The Halon charged fire suppression system will be replaced with an alternate agent system.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES: Examples			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
	3QFY97		
Critical Design Review:	4QFY97		
Joint Government Contractor Test and Evaluation:	2QFY98		
IPR Production Decision	2QFY98		
TDP Available:	2QFY98		

INDIVIDUAL MODIFICATION															Date		February 1997							
MODIFICATION TITLE (Cont):															FAASV HALON REPLACEMENT 1-94-05-4477									
FINANCIAL PLAN: (\$ in Millions)																								
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL						
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$					
RDT&E																								
PROCUREMENT																								
Kit Quantity																								
Installation Kits																								
Engineering Support																								
Data																								
Test																								
Other -																								
		0.3														849		885						
				0.5		0.3										6.1		6.4						
						0.4										0.2		1.1						
						0.3										0.1		0.4						
				0.5		0.6										0.1		1.4						
						0.2										0.1		0.3						
Installation of Hardware																								
FY 1996 & Prior Eqpt -- Kits																								
FY 1997 Eqpt -- Kits																								
FY 1998 Eqpt -- Kits																								
FY 1999 Eqpt -- Kits																								
FY 2000 Eqpt -- kits																								
FY 2001 Eqpt -- kits																								
FY 2002 Eqpt -- kits																								
FY 2003 Eqpt -- kits																								
(FY(TC) Eqpt (xx kits)																								
						36		0.3								419		36						
																3.6		0.3						
																430		3.6						
																3.2		3.2						
Total Installation Cost																								
		0.3		1.0		1.8										849		885						
						0.3										6.8		7.1						
						0.3										13.3		16.7						
Total Procurement Cost																								
METHOD OF IMPLEMENTATION: Contractor															ADMINISTRATIVE LEADTIME:					PRODUCTION LEADTIME:				
Contract Dates:															FY 1997:					FY 1998:				
Delivery Date:															FY 1997:					FY 1998:				
															5 Months					6 Months				
															FEB 98					FY 1999:				
															AUG 98					FY 1999:				

Installation Schedule: **FAASV HALON REPLACEMENT 1-94-05-4477**

	FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2005				Total
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	4			
Inputs																													
FY 1996 & Prior																													
FY 1997																													
FY 1998																													
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Outputs																													
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FY 2003																													

Remarks:

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles					P-1 ITEM NOMENCLATURE					
					IMPROVED RECOVERY VEHICLE (M88 MOD) (GA0570)					
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	24	24	12	17	25	31	36	45		
COST (in millions)	54.4	55.7	28.6	40.2	59.7	74.0	87.1	109.8		
<p>Description: The M88A2 Hercules is an armored, full-tracked, diesel-powered, recovery vehicle configured with an A-frame boom, two winches, and a spade. The boom has a 35 ton lift capacity and the main winch has a constant pull capacity of 70 tons. The hull is armored for protection against small arms fire, artillery fragments and anti-personnel mines. The vehicle mounts a .50 caliber machine gun for self-protection. The M88A2 HERCULES is capable of performing recovery, evacuation, and limited repair of the main battle tank.</p> <p>JUSTIFICATION: The present 56 ton M88A1 is deficient in its ability to safely perform battlefield recovery of vehicles weighing 60 tons or more. The M88A1 cannot safely recover the Army's current main battle tank, the Abrams Tank, without using a second vehicle as a brake vehicle. The present lack of recovery capability has necessitated the development of an improved recovery vehicle to provide a towing capability for vehicles weighing up to 70 tons. The M88A2 HERCULES will provide the Army with this capability. The M88A2 HERCULES program strategy is to modify the existing M88 recovery vehicle chassis, upgrade the propulsion system to 1050 HP, add armor protection, improve winching to 70 tons, improve hoisting to 35 tons, and add a hydraulic assisted braking system.</p>										

Cost Analysis Exhibit (P-5)		A. APPN/BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHICLE Tracked Combat Vehicles				B. WEAPON IMPROVED RECOVERY VEHICLE (M88 MOD) (GAO570)				C. MANUFACTURER NAME United Defense LP York PA				D. DATE February 1997	
		FY 96				FY 97				FY 98				FY 99	
Cost Elements		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	Qty Each	UnitCost \$000
1. Vehicle Manufacturing - Contractor	B	45841	24	1910	45432	24	1893	22761	12	1897	33616	17	1977		
2. Vehicle Manufacturing - GFE		1980	24	83	2040	24	85	1038	12	87	1496	17	88		
3. Contract Engineering		1779			2016			2092			2239				
4. Engineering Change Orders		113			460			228			308				
5. Project Management Admin - Core		897			961			991			1010				
6. Project Management Admin - OGA		1149			1099			839			859				
7. Transportation		48			48			24			33				
8. Fielding		871			632			628			668				
9. Testing		1685			506										
10. Test Vehicle Refurb					2493										
<b>TOTAL</b>		<b>54363</b>			<b>55687</b>			<b>28601</b>			<b>40229</b>				
Weapon System Unit Cost		2265			2320			2383			2366				

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										
B. APPROPRIATION / BUDGET ACTIVITY					DATE		February 1997			
C. P-1 ITEM NOMENCLATURE										
Improved Recovery Vehicle (M88 Mod) (GA0570)										
Procurement of Weapons and Tracked Combat Vehicles										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
1. Vehicle Manufacturing - Contractor										
FY 96	UDLP (1)	SS-FFP	TACOM	Apr-96	Jul-97	24	1910	YES		
FY 97	UDLP	SS-FFP	TACOM	Mar-97	Jul-98	24	1893	YES		
FY 98	UDLP	SS-FFP	TACOM	Mar-98	Jul-99	12	1897	YES		
FY 99	UDLP	SS-FFP	TACOM	Mar-99	Jul-00	16	1977	YES		
2. Vehicle Manufacturing - GFE										
FY96	Various	SS-FFP	Various				83	YES		
FY97	Various	SS-FFP	Various				85	YES		
FY98	Various	SS-FFP	Various				87	YES		
FY99	Various	SS-FFP	Various				88	YES		
REMARKS:										
(1) United Defense Limited Partnership FY97 (Vehicle Manufacturing, Contractor): Unit cost reduction from FY96 to FY97 due to manufacturing efficiencies as a result of learning after FY95 production break. FY99 (Vehicle Manufacturing, Contractor): Increased unit cost in FY99 due to production break in FY98										





[illegible]





BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles										
P-1 ITEM NOMENCLATURE										
BREACHER SYSTEM (MOD) (GZ3200)										
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	0	0	0	0	0	11	11	16		
COST (in millions)	0.0	0.0	0.0	10.4	11.0	83.4	86.3	125.9		
<p><b>DESCRIPTION:</b> The Grizzly (Breacher) will be developed around the M-1 Abrams tank chassis and will integrate a versatile/survivable full-width mine clearing blade with automatic depth control, a power driven excavating arm to reduce complex obstacles, and an armored commander's control station. The Grizzly will provide the Combat Engineer with significantly improved mission effectiveness and crew/vehicle survivability while clearing minefields and removing complex natural and man-made obstacles at the forward edge of the battlefield. The Grizzly will be capable of moving with, and be as survivable as, the force it is supporting. It will provide the maneuver force with the freedom required to successfully execute assigned ground combat mission requirements.</p> <p><b>JUSTIFICATION:</b> During Operation Desert Storm, it became evident that the Army presently has no one vehicle capable of performing an in-stride, complex linear obstacle breach. All existing counterobstacle and countermine systems are single purpose only, and lack the mobility, protection and agility of the current maneuver force. The Grizzly possesses a complex obstacle reducing capability, with mobility protection, and agility comparable to the M-1 Abrams Tank.</p>										

WTCV Cost Analysis		A. APPN/ BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				B. WEAPON BREACHER SYSTEM (MOD) (GZ3200)				C. MANUFACTURER NAME GDLS		D. DATE February 1997			
WTCV Cost Elements		FY96				FY97				FY98				FY99	
ID	CD	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost		
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
1. Vehicle Manufacturing - Contractor															
2. Vehicle Manufacturing - ANAD															
3. Vehicle Manufacturing - GFE															
4. System Technical Support															
5. Engineering Change Orders															
6. Project Management Admin - Core															
7. Project Management Admin - OGA															
8. Sustaining Tooling - Contractor															
9. Sustaining Tooling - Anniston															
10. Initial Production Facilities															
TOTAL															
10444															
10444															

10444

10444

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
C. P-1 ITEM NOMENCLATURE										
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Tracked Combat Vehicles										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
10. Facillitization - FY99	UDLP: York, PA*	SS-FFP	TACOM	Jun-99	NA	NA	NA	No	No	
REMARKS: *United Defense Limited Partnership.										





BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHs / Tracked Combat Vehicles										
P-1 ITEM NOMENCLATURE										
HEAVY ASSAULT BRIDGE (HAB) SYS (MOD) (GZ3250)										
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	2	10	7	9	13	15	17	17		
COST (in millions)	14.6	51.3	42.2	52.0	71.2	90.1	111.5	122.5		
<p><b>DESCRIPTION:</b> The Wolverine (Heavy Assault Bridge) is a 26 meter (79 feet) Military Load Class 70 bridge transported on a modified M1A2 SEP Abrams Tank chassis. The bridge is capable of spanning gaps up to 24 meters on both prepared and unprepared abutments and can be placed on a bearing surface over its entire length. It is launched under armor within five minutes and can be retrieved, from either end, in less than ten minutes. The Wolverine is operated by a crew of two soldiers and will be employed by Combat Engineer units in both offensive and defensive combined arms operations. Its mission is to provide gap crossing capability for heavy maneuver forces. It is planned to support the Abrams Tank System and the Bradley Fighting Vehicle and is compatible with these systems in mobility and survivability.</p> <p><b>JUSTIFICATION:</b> During Operation Desert Storm, it became evident that the current Army bridging system was deficient in gap spanning capability and required increased load carrying capability. The Wolverine will replace the Armored Vehicle Launched Bridge (AVLB) providing increased worldwide gap crossing capabilities, increased load capacity to support Military Load Class 70 vehicles and improved mobility, survivability, and logistics compatibility. The Wolverine enhances the Combined Arms Team's ability to move where it wants, multiplying its combat capabilities. First Unit Equipped will be in FY00 at a quantity of 12 vehicles.</p>										

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles				B. WEAPON HEAVY ASSAULT BRIDGE (HAB) SYS (MOD) (GZ3250)				C. MANUFACTURER NAME GEN DYNAMICS LAND SYS				D. DATE February 1997	
WTCV Cost Elements		FY 96		FY 97		FY 98		FY 99							
ID	CD	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000		
1. Vehicle Manufacturing - Contractors	B	10400	2	5200	38592	10	3859	27775	7	3968	36720	9	4080		
2. Vehicle Manufacturing - ANAD		400	2	200	2240	10	224	1600	7	229	2100	9	233		
3. Vehicle Manufacturing - GFE		2100	6	350	2028	6	338	2230	7	319	2910	9	323		
4. Contract Engineering					4292			7550			6990				
5. Engineering Change Orders					1020			720			940				
6. Project Mgmt Admin - Core		747			710			730			750				
7. Project Mgmt Admin - OGA		964			1390			1350			1350				
8. Total Package Fielding					190			250			190				
9. Initial Production Facilities					860										
TOTAL PROGRAM COST		14611			51322			42205			51950				
Weapon System Unit Cost		7305			5132			6029			5772				

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
B. APPROPRIATION / BUDGET ACTIVITY											
C. P-1 ITEM NOMENCLATURE											
HEAVY ASSAULT BRIDGE (HAB) SYS (MOD) (GZ3250)											
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles											
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPECS REV REQD	IF YES W/A	
1. Vehicle Manufacturing											
FY 96	General Dynamics Land Sys *	SS-CPFF	TACOM	Aug-96	Mar-99	2	5200	NO	YES		Apr-98
FY 96	Anniston Army Depot					2	200				
FY 96	Government Furnish Equipment					6	350				
FY 97	General Dynamics Land Sys *	SS-CPFF	TACOM	Dec-96	Apr-99	4	3859	NO	YES		Apr-98
FY 97	Anniston Army Depot	OPTION				4	224				
FY 97	General Dynamics Land Sys *	SS-FFP	TACOM	Jun-97	Oct-00	6	3859	NO	YES		Apr-98
FY 97	Anniston Army Depot	BOA				6	224				
FY 97	Government Furnish Equipment					6	338				
FY 98	General Dynamics Land Sys *	SS-FFP	TACOM	Dec-97	Feb-00	7	3968	NO	YES		Apr-98
FY 98	Anniston Army Depot	BOA				7	229				
FY 98	Government Furnish Equipment					7	319				
FY 99	General Dynamics Land Sys *	SS-FFP	TACOM	Nov-98	Sep-00	9	4080	NO	YES		Apr-98
FY 99	Anniston Army Depot	BOA				9	233				
FY 99	Government Furnish Equipment					9	323				
REMARKS: * General Dynamics Land Systems - Sterling Heights, MI											













# BUDGET ITEM JUSTIFICATION SHEET

APPROPRIATION / BUDGET ACTIVITY		DATE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles		February 1997									
P-1 ITEM NOMENCLATURE		M1 ABRAMS TANK (MOD) (GA0700)									
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
	0	0	0	0	0	0	0	0			
COST (In millions)	50.1	63.2	29.8	30.1	23.9	68.8	107.1	129.8			

DESCRIPTION: The funds programmed in this budget line will provide for the procurement and application of modification kits for the Abrams series tank to improve lethality, survivability, safety and operations. Tank lethality will be improved by the Armament Enhancement Initiative (AEI). Tank survivability and safety improvements include Live Fire Category A (Manual Blaster, Driver's / Loader's Hatch Ballistic Rims, Turret Cable Ballistic Protection and Driver's / Loader's Hatch Latch); Live Fire Category B (Ammo Door Latch Mechanism, Smoke Generator Fuel Line and Improved Gunner's Station); Battlefield Override (BF/OR); Driver's Viewer Quick Release (DVQR); System Package (SEP) / 2nd Generation Forward Looking Infra - Red (Gen II FLIR); Driver's Hatch Interlock and Embedded Battle Command (EBC). Tank operational improvements include the Precision Lightweight GPS Receiver (PLGR); Pulse - Jet Air System (PJAS); Vehicle Intercommunications System (VIS); External Auxiliary Power Unit (EAPU) and the Mounted Water Ration Heater (MWRH). These P-Forms reflect the alignment of some Mods into Blocks with the expectation that reduced costs will result from concurrent application. Including the Live Fire Mods listed above which will be combined as Block G; more than 60 modifications have been so combined during the life of this program. Finally, there is the Presidentially directed Halon Replacement Program (Ozone Depleting Chemical Replacement).

BUDGET ITEM JUSTIFICATION SHEET			DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE		
PROCUREMENT OF WPNS & TRKD CMBT VEHs /Tracked Combat Vehicles		M1 ABRAMS TANK (MOD) (GA0700)		

OSIP No.	Description	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
1-92-05-4411	Halon Replacement	7.4	4.1	6.8	7.3	7.2	7.5	6.6
TBD1	Drivers Hatch Interlock	0.0	6.6	6.0	0.0	0.0	0.0	0.0
1-92-05-4412	Vehicle Intercommunications System (VIS)	26.6	6.0	5.4	0.6	0.0	0.0	0.0
Legislative Compl								
1-89-05-4226	Armament Enhancement Initiative (AEI)	60.1	0.4	0.0	0.0	0.0	0.0	0.0
Operational								
1-92-05-4417	Precision Lightweight GPS Receiver (PLGR)	6.7	1.6	1.6	1.6	0.4	0.0	0.0
Manprint								
1-89-05-4230	Live Fire Category A (LFCA)	14.4	3.7	3.7	4.0	3.9	4.1	1.8
Deficiency Correct								
1-89-05-4229	Battlefield Override (BF/OR)	8.9	4.2	2.5	1.8	0.8	0.8	0.4
Operational								
1-94-05-4481	Live Fire Category B (LFCB)	2.4	0.8	0.8	0.8	0.8	0.8	0.6
Deficiency Correct								
1-92-05-4427	Driver's Viewer Quick Release (DVQR)	0.3	0.3	0.3	0.2	0.0	0.0	0.0
Safety								
1-92-05-4475	Pulse Jet Air System (PJAS)	18.2	9.5	3.0	3.6	6.3	6.9	7.0
Operational								
1-92-05-4426	Mounted Water Ration Heater (MWRH)	1.9	0.2	0.0	0.0	0.0	0.0	0.0
Manprint								
N/A	Prior Year MOD Kit Applications	65.0	2.4	0.0	0.0	0.0	0.0	0.0
Operational								
1-96-05-4504	2nd Gen Forward Looking Infra-Red (2GFLIR)	0.0	0.0	0.0	1.8	28.7	50.1	64.7
Operational								
1-96-05-4505	System Enhancement Package (SEP)	0.0	0.0	0.0	1.2	19.7	35.8	47.6
Operational								
1-96-05-4516	Embedded Battle Command	0.0	0.0	0.0	1.0	1.0	1.1	1.1
Operational								



MODIFICATION INSTALLATION SUMMARY										Date
										February 1997
(TOA, Dollars in Millions)										
System/Modification	FY 1996	FY 1997	FY 1998	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
* No P3a Set for modification										
M1 ABRAMS TANK (MOD)										
GA0700										
Halon Replacement	0.0	0.0	0.0	2.7	2.9	2.9	2.9	3.0	3.0	14.5
Drivers Hatch Interlock	0.0	0.0	6.6	6.0	0.0	0.0	0.0	0.0	0.0	12.6
Vehicle Intercommunications System (VIS)	1.1	0.8	0.6	0.6	0.6	0.6	0.0	0.0	0.0	3.7
Armament Enhancement Initiative (AEI)	15.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7
Precision Lightweight GPS Receiver (PLGR)	1.7	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	3.3
Live Fire Category A (LFCA)	5.5	4.6	2.5	2.5	2.7	2.7	2.6	2.7	1.8	24.9
Battlefield Override (BF/OR)	1.0	3.3	1.7	1.6	1.2	1.2	0.3	0.4	0.4	9.9
Live Fire Category B (LFCB)	1.6	1.5	0.6	0.6	0.7	0.7	0.7	0.7	0.6	7.0
Driver's Viewer Quick Release (DVQR)	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.8
Pulse Jet Air System (PJAS)	0.0	2.3	0.8	0.2	0.6	0.6	0.6	1.1	1.2	6.8
Mounted Water Ration Heater (MWRH)	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Prior Year MOD Kit Applications	65.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.4
2nd Gen Forward Looking Infra-Red (2GFLIR)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
System Enhancement Package (SEP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Embedded Battle Command	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
External Auxiliary Power Unit (EAPU)	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	2.1
External Auxiliary Power Unit (EAPU) Upgrade	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	91.3	15.6	15.7	14.8	9.3	7.5	7.5	7.9	7.0	169.1

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Halon Replacement 1-92-05-4411	
MODELS OF SYSTEMS AFFECTED:		M1 = 0, IPM1 = 818, M1A1 = 4351 and M1A2 = 1079 TOTAL RQMT = 6248	
<p>DESCRIPTION / JUSTIFICATION:</p> <p>This modification changes the engine compartment fire suppression system in all Abrams tank variants. The retrofit involves the substitution of an, as yet, undetermined chemical for the halon currently used. This requirement was mandated by the 1988 Montreal Protocol in which 93 countries including the U.S.A. agreed to phase out Ozone Depleting Chemicals [ODC's] including the halon 1301 used in the Abrams Tank engine compartment [halon 1301 remains authorized for the crew compartment due to survivability concerns but engine compartment halon must be deleted]. See 1992 DOD directive 6050.9 which establishes policy of ODC's and DA letter 200 / 9 which implements that policy. The halon replacement modification is the implementation of a Presidential directive.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	1Q93	ACCOMPLISHED
Critical Design Review:		1Q94	3Q94
Contractor Test and Evaluation:		2Q96	2Q96
Development Test and Evaluation:		3Q96	4Q96
Initial Operational Test and Evaluation:		2Q97	
IPR Production Decision		3Q97	
TDP Available:		4Q97	





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Drivers Hatch Interlock TBD1			
MODELS OF SYSTEMS AFFECTED: M1 = 355; IPM1 = 892; M1A1 = 4351; M1A2 = 0		TOTAL RQMT = 5598	
DESCRIPTION / JUSTIFICATION:			
<p>The Driver's Hatch Interlock (DHI) is a SAFETY Modification which provides an electronic interface between the Driver's Hatch and the Turret Drive (Rotation) controls. Its purpose is to preclude Turret rotation while the Driver's Hatch is open. In the recent past there have been several accidents in the field where the driver has been injured or killed by inadvertently extending his head outside the hatch while the turret was being rotated. The DHI will assure that similar accidents will not occur in the future. Without this funding, the potential exists for additional driver accidents or fatalities.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Examples	Preliminary Design Review:	PLANNED 2Q96	ACCOMPLISHED 2Q96
	Critical Design Review:	3Q96	3Q96
	Contractor Test and Evaluation:	N / A	N / A
	Development Test and Evaluation:	4Q96	4Q96
	Initial Operational Test and Evaluation:	N / A	N / A
	IPR Production Decision	4Q96	4Q96
	TDP Available:	1Q97	1Q97







INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Vehicle Intercommunications System (VIS) 1-92-05-4412			
MODELS OF SYSTEMS AFFECTED:		M1 = 0; IPM1 = 0; M1A1 = 4351; and M1A2 = 181	TOTAL RQMT = 4532
DESCRIPTION / JUSTIFICATION:			
<p>The Vehicle Intercommunications System [VIS] is an intercom for intercrew communications and a radio for tank to tank direct communications. It replaces the AN / VIC - 1 which is technologically obsolete, difficult to maintain and susceptible to electronic countermeasures. VIS is a State - of - the - Art replacement which has none of these drawbacks. This is a congressionally mandated program. Note that the milestones below are for USA CECOM, the "A" proponent for the VIS program. Current funding will cover retrofit of M1A2's produced prior to production cut - in and all M1A1's.</p>			
USER PRIORITY: 13			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	N/A	ACCOMPLISHED N/A
Critical Design Review:		N/A	N/A
Contractor Test and Evaluation:		N/A	N/A
Development Test and Evaluation:		4Q92	2Q92
Initial Operational Test and Evaluation:		3Q94	4Q94
IPR Production Decision		4Q92	4Q92
TDP Available:		N/A	N/A

INDIVIDUAL MODIFICATION																
Vehicle Intercommunications System (VIS) 1-92-05-4412																
MODIFICATION TITLE (Cont):																
FINANCIAL PLAN: (\$ in Millions)																
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																
PROCUREMENT																
Kit Quantity	2568		655		655		654								4532	
Installation Kits																
Installation Kits Nonrecurring																
Equipment		22.9				5.7		4.8								38.8
Equipment Nonrecurring																
Engineering Change Orders		0.2														0.2
Testing		0.2														0.2
Training Equipment																
Support Equipment																
Other [In - House Support]		1.7				0.1										1.8
Interim Contractor Support		0.5														0.5
Installation of Hardware																
FY 1996 & Prior Eqpt - 2568	1400	1.1	792	0.8	376	0.3									2568	2.2
FY 1997 Eqpt -- Kits 655					404	0.3	251	0.2							655	0.5
FY 1998 Eqpt -- Kits 655							529	0.4	126	0.1					655	0.5
FY 1999 Eqpt -- Kits 654									654	0.5					654	0.5
FY 2000 Eqpt -- kits																
FY 2001 Eqpt -- kits																
FY 2002 Eqpt -- kits																
FY 2003 Eqpt -- kits																
(FY(TC) Eqpt (xx kits)																
Total Installation Cost	1400	1.1	792	0.8	780	0.6	780	0.6	780	0.6					4532	3.7
Total Procurement Cost		26.6		6.6		6.0		5.4		0.6						45.2

METHOD OF IMPLEMENTATION: Depot Field Team																
Contract Dates: FY 1997: SEP 97 JAN 98																
Delivery Date: FY 1997: JAN 98																
ADMINISTRATIVE LEADTIME: FY 1998: SEP 98 JAN 99																
PRODUCTION LEADTIME: FY 1999: SEP 99 JAN 00																
1 Months																
4 Months																



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Armament Enhancement Initiative (AEI) 1-89-05-4226	
MODELS OF SYSTEMS AFFECTED:		M1A1 Only (4351ea.)	
DESCRIPTION / JUSTIFICATION:			
<p>The Armament Enhancement Initiative is a high priority program to improve the lethality of the Abrams Tank by improving the tank ammunition. This modification allows the 120mm equipped tank fleet to accept ammunition round upgrades through improvements to the fire control system via new ballistic solutions and reticle changes. The ammunition round upgrades will significantly improve kill probabilities for the fielded M1A1 fleet. Finally, this program includes the upgrade of the first 1629ea M1A1 gun mounts to the higher pressure AEI configuration [The balance of delivered gun mounts were supplied in this configuration for production].</p> <p>USER PRIORITY: #1.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	2Q91	ACCOMPLISHED
Critical Design Review:		3Q91	4Q91
Contractor Test and Evaluation:		3Q91	4Q91
Development Test and Evaluation:		N/A	N/A
Initial Operational Test and Evaluation:		4Q91	1Q92
IPR Production Decision		N/A	N/A
TDP Available:		2Q92	1Q92

INDIVIDUAL MODIFICATION															Date		February 1997							
MODIFICATION TITLE (Cont):															Armament Enhancement Initiative (AEI) 1-89-05-4226									
FINANCIAL PLAN: (\$ In Millions)																								
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL						
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$					
RDT&E																								
PROCUREMENT																								
4351																		4351						
Kit Quantity																								
Installation Kits																								
	26.4																		26.4					
Installation Kits Nonrecurring Equipment																								
	3.2																		3.2					
Equipment Nonrecurring																								
Engineering Change Orders																								
In/House Support																								
	15.2																		15.2					
Training Equipment																								
Support Equipment																								
Other [Gun-Mount Rebuild]																								
Interim Contractor Support																								
Installation of Hardware																								
4201	15.3	150	0.4															4351	15.7					
FY 1996 & Prior Eqpt - 4351																								
FY 1997 Eqpt -- Kits																								
FY 1998 Eqpt -- Kits																								
FY 1999 Eqpt -- Kits																								
FY 2000 Eqpt -- kits																								
FY 2001 Eqpt -- kits																								
FY 2002 Eqpt -- kits																								
FY 2003 Eqpt -- kits																								
(FY(TC) Eqpt (xx kits)																								
4201	15.3	150	0.4															4351	15.7					
Total Installation Cost																								
	60.1		0.4																60.5					
Total Procurement Cost																								
METHOD OF IMPLEMENTATION: See Remarks															ADMINISTRATIVE LEADTIME:					PRODUCTION LEADTIME:				
Contract Dates:															FY 1997:					FY 1998:				
Delivery Date:															Feb-96					Nov-96				
															2 Months					3 Months				

Installation Schedule: Armament Enhancement Initiative (AEI) 1-89-05-4226													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													Total
FY 1996 & Prior		4351											4351
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior		4201	40	40	40	30							4351
FY 1997													
FY 1998													
FY 1999													



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Precision Lightweight GPS Receiver (PLGR) 1-92-05-4417			
MODELS OF SYSTEMS AFFECTED: M1 = O ; IPM1 = 0 ; M1A1 = 4351 ; M1A2 = 0 TOTAL RQMT = 4351ea			
DESCRIPTION / JUSTIFICATION: <p>The Precision Lightweight GPS Receiver [PLGR] is a self - contained unit which can collect and process GPS satellite signals and derive Position [To within 10 meters], Velocity and Time [PVT]. The funding shown is for the PLGR Installation Kit only; the PLGR units will be procured and provided to PM Abrams by PM GPS.</p> <p>USER PRIORITY: 3</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED 2Q91	ACCOMPLISHED 2Q91	
Critical Design Review:	4Q91	4Q91	
Contractor Test and Evaluation:	3Q93	3Q93	
Development Test and Evaluation:	3Q93	3Q93	
Initial Operational Test and Evaluation:	2Q94	2Q94	
IPR Production Decision	4Q94	4Q94	
TDP Available:	3Q96		

INDIVIDUAL MODIFICATION													
MODIFICATION TITLE (Cont): Precision Lightweight GPS Receiver (PLGR) 1-92-05-4417													
FINANCIAL PLAN: (\$ In Millions)													
	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		TOTAL
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty
RDT&E													
PROCUREMENT													
Kit Quantity	2383	5.0	500	1.2	500	1.2	500	1.2	468	1.2			4351
Installation Kits													9.8
Installation Kits Nonrecurring Equipment													
Equipment Nonrecurring													
Engineering Change Orders													
Data													
Training Equipment													
Support Equipment													
Other [In-House Support]													
Interim Contractor Support													
Installation of Hardware													
FY 1996 & Prior Eqpt -- Kils	2383	1.7											2383
FY 1997 Eqpt -- Kils													500
FY 1998 Eqpt -- Kils			500	0.4			500	0.4					500
FY 1999 Eqpt -- Kils									500	0.4			500
FY 2000 Eqpt -- Kils											468	0.4	500
FY 2001 Eqpt -- Kils													468
FY 2002 Eqpt -- Kils													0.4
FY 2003 Eqpt -- Kils													0.4
(FY(TC) Eqpt (xx kils)													
Total Installation Cost	2383	1.7	500	0.4	500	0.4	500	0.4	500	0.4	468	0.4	4351
Total Procurement Cost		6.7		1.2		1.6		1.6		1.6		0.4	13.1

METHOD OF IMPLEMENTATION: Depot Field Team  
 Contract Dates: FY 1997: Mar-97  
 Delivery Date: FY 1997: Aug-97

PRODUCTION LEADTIME: 5 Months  
 FY 1998: Mar-99  
 FY 1999: Aug-99



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Live Fire Category A (LFCA) 1-89-05-4230			
MODELS OF SYSTEMS AFFECTED: M1 = 0; IPM1 = 0; M1A1 = 4351; M1A2 = 0 TOTAL RQMT = 4351			
DESCRIPTION / JUSTIFICATION:			
<p>Live Fire Category A consists of the following M1A1 Tank modifications: [1.] Independent Manual Blaster, [2.] Driver's / Loader's Hatch Ballistic Rims, [3.] AFES Wiring Harness Ballistic Protection and [4.] Driver's / Loader's Hatch Latch Mechanism. Each of these modifications corrects a deficiency relating to tank survivability found during Live - Fire testing. These modifications will be procured together and applied concurrently as a portion of Block G.</p> <p>USER PRIORITIES: 2d, 2e, 4a, 4b</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED 2Q89	ACCOMPLISHED 2Q89	
Critical Design Review:	1Q91	1Q91	
Contractor Test and Evaluation:	4Q91	4Q91	
Development Test and Evaluation:	N/A	N/A	
Initial Operational Test and Evaluation:	N/A	N/A	
IPR Production Decision	2Q92	2Q92	
TDP Available:	4Q92	4Q92	



Installation Schedule: Live Fire Category A (LFCA) 1-89-05-4230

	FY 1996 & Prior				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				Total
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Inputs																									
FY 1996 & Prior	1510	175	175	150																					
FY 1997			25	175	100	91																			
FY 1998						9	100	100	100	81															
FY 1999										19	100	100	100	71											
Outputs																									
FY 1996 & Prior	1400	187	187	187	49																				
FY 1997				139	98	98	56																		
FY 1998							42	98	98	98	54														
FY 1999										44	98	98	98	52											

Remarks:

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Battlefield Override (BF/OR) 1-89-05-4229			
MODELS OF SYSTEMS AFFECTED: M1 = 0; IPM1 = 0; M1A1 = 3850; and M1A2 = 407 TOTAL RQMT: 4257EA			
DESCRIPTION / JUSTIFICATION:			
<p>Battlefield Override is a completely mechanical fuel, engine control, and transmission bypass requiring NO primary or back - up electrical system for operation. The purpose of Battlefield Override is to allow an Abrams Tank to extricate itself from the battlefield when normal fuel flow, engine control or transmission shifting have been lost through battle damage. It is designed for use in combat situations ONLY; has no peace - time recovery role and is based on the premise that crew / tank self recovery takes priority over potential engine or transmission damage resulting from uncontrolled operations. This modification will significantly improve crew / tank survivability in a combat environment.</p>			
USER PRIORITY - 3			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	4Q91	ACCOMPLISHED
Critical Design Review:	1Q92		2Q92
Contractor Test and Evaluation:	2Q92		3Q92
Development Test and Evaluation:	1Q93		3Q93
Initial Operational Test and Evaluation:	N / A		N / A
IPR Production Decision	1Q93		3Q93
TDP Available:	3Q94		1Q95

INDIVIDUAL MODIFICATION																				
Battlefield Override (BF/OR) 1-89-05-4229																				
MODIFICATION TITLE (Cont):																				
FINANCIAL PLAN: (\$ in Millions)																				
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																				
PROCUREMENT																				
Kit Quantity	2435	333		333		333		333		333		332						4432		
Installation Kits																				
Installation Kits Nonrecurring Equipment	6.6		0.9		0.9		0.9		0.6		0.5		0.4						10.8	
Equipment Nonrecurring																				
Engineering Change Orders	1.1																		1.1	
Engineering / Testing	0.2																		0.2	
Training Equipment																				
Support Equipment																				
Other (Spares Kits)																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt - 2435	1422	1.0	667	3.3	333	1.7	13	0.1										2435	6.1	
FY 1997 Eqpt -- Kits							320	1.5	13	0.1								333	1.6	
FY 1998 Eqpt -- Kits									320	1.1	13	0.1						333	1.2	
FY 1999 Eqpt -- Kits											320	0.2	13	0.1				333	0.3	
FY 2000 Eqpt -- kits													320	0.3	13	0.1		333	0.4	
FY 2001 Eqpt -- kits															320	0.3	13	333	0.4	
FY 2002 Eqpt -- kits																	332	332	0.3	
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost	1422	1.0	667	3.3	333	1.7	333	1.6	333	1.2	333	0.3	333	0.4	333	0.4	345	0.4	4432	10.3
Total Procurement Cost		8.9		4.2		2.6		2.5		1.8		0.8		0.8		0.4		0.4		22.4
METHOD OF IMPLEMENTATION: Depot Field Team																				
Contract Dates: FY 1997: MAY 97    FY 1998: MAY 98    FY 1999: MAY 99    PRODUCTION LEADTIME: 6 Months																				
Delivery Date: FY 1997: NOV 97    FY 1998: NOV 98    FY 1999: NOV 99																				

METHOD OF IMPLEMENTATION: Depot Field Team  
 Contract Dates: FY 1997: MAY 97 FY 1998: MAY 98  
 Delivery Date: FY 1997: NOV 97 FY 1998: NOV 98

ADMINISTRATIVE LEADTIME: 2 Months  
 PRODUCTION LEADTIME: 6 Months  
 FY 1999: MAY 99  
 FY 1999: NOV 99



Installation Schedule:		Battlefield Override (BF/OR) 1-89-05-4229																											
		FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				February 1997			
		& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Total		
Inputs																													
FY 1996 & Prior		1596	175	175	175	175	139																				2435		
FY 1997							11	150	150	22																	333		
FY 1998							128	100	100	5																	333		
FY 1999										95	100	100	38														333		
Outputs																													
FY 1996 & Prior		1422	167	167	167	166	84	83	83	83	13																2435		
FY 1997							71	83	83	83	13																333		
FY 1998											71	83	83	83	13												333		
FY 1999												71	83	83	83	13											333		

INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE: Live Fire Category B (LFCB) 1-94-05-4481		February 1997
MODELS OF SYSTEMS AFFECTED: M1 = 0 ; IPM1 = 0 ; M1A1 = 4351 ; M1A2 = 81		TOTAL RQMT = 4432ea
DESCRIPTION / JUSTIFICATION:		
<p>Live Fire Category B includes the following individual modifications: [1.] Improved Gunners Station, [2.] Smoke Generator Fuel Line and [3.] Turret Ammunition Door Locking Mechanism. Each of these modifications corrects a vehicle deficiency found during Live Fire Testing. These modifications will be procured and applied simultaneously as a portion of Block G.</p>		
USER PRIORITY: 4c		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		
Preliminary Design Review:	PLANNED N / A	ACCOMPLISHED N / A
Critical Design Review:	4Q93	4Q93
Contractor Test and Evaluation:	N / A	N / A
Development Test and Evaluation:	1Q94	1Q94
Initial Operational Test and Evaluation:	N/A	N/A
IPR Production Decision	4Q93	4Q93
TDP Available:	2Q94	4Q94

INDIVIDUAL MODIFICATION																			Date		February 1997							
MODIFICATION TITLE (Cont):																			Live Fire Category B (LFCB) 1-94-05-4481									
FINANCIAL PLAN: (\$ In Millions)																												
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL										
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$									
RDT&E																												
PROCUREMENT																												
Kit Quantity		2010		404		404		404		404		402						4432										
Installation Kits																												
Installation Kits Nonrecurring			0.7		0.2		0.2		0.1		0.1		0.1						1.6									
Equipment																												
Equipment Nonrecurring																												
Engineering Change Orders																												
Data																												
Training Equipment																												
Support Equipment																												
Other In / House Support			0.1																0.1									
Interim Contractor Support																												
Installation of Hardware																												
FY 1996 & Prior Eqpt - 2010		1058	1.6	952	1.5	404	0.6											2010	3.1									
FY 1997 Eqpt -- Kits																		404	0.6									
FY 1998 Eqpt -- Kits																		404	0.6									
FY 1999 Eqpt -- Kits																		404	0.7									
FY 2000 Eqpt -- kits									404	0.7								404	0.7									
FY 2001 Eqpt -- kits											404	0.7						404	0.7									
FY 2002 Eqpt -- kits												404	0.7					404	0.7									
FY 2003 Eqpt -- kits\\													402	0.6				402	0.6									
(FY(TC) Eqpt (xx kits)																												
Total Installation Cost		1058	1.6	952	1.5	404	0.6	404	0.6	404	0.7	404	0.7	402	0.6			4432	7.0									
Total Procurement Cost			2.4		1.7		0.8		0.8		0.8		0.8		0.6				8.7									

METHOD OF IMPLEMENTATION: Depot Field Teams										ADMINISTRATIVE LEADTIME:				3 Months				PRODUCTION LEADTIME:				5 Months			
Contract Dates:		FY 1997:		JUL 97		DEC 97		JUL 98		DEC 98		JUL 99		DEC 99		JUL 99		DEC 99		JUL 99		DEC 99			
Delivery Date:		FY 1997:		JUL 97		DEC 97		JUL 98		DEC 98		JUL 99		DEC 99		JUL 99		DEC 99		JUL 99		DEC 99			

METHOD OF IMPLEMENTATION: Depot Field Teams  
 Contract Dates: FY 1997: JUL 97 FY 1998: DEC 97  
 Delivery Date: FY 1997: DEC 97  
 ADMINISTRATIVE LEADTIME: '1998: JUL 98 DEC 98  
 PRODUCTION LEADTIME: 3 Months JUL 99 DEC 99  
 5 Months

Installation Schedule: Live Fire Category B (LFCB) 1-94-05-4481														
FY 1996			FY 1997			FY 1998			FY 1999			FY 2000		
& Prior			1	2	3	4	1	2	3	4	1	2	3	4
Inputs			Date											
FY 1996 & Prior			February 1997											
FY 1997			FY 2001											
FY 1998			FY 2001											
FY 1999			FY 2001											
Outputs			FY 2001											
FY 1996 & Prior			FY 2001											
FY 1997			FY 2001											
FY 1998			FY 2001											
FY 1999			FY 2001											
Inputs			FY 2000											
FY 2000			1	2	3	4	1	2	3	4	1	2	3	4
FY 2001			FY 2001											
FY 2002			FY 2001											
FY 2003			FY 2001											
Outputs			FY 2000											
FY 2000			FY 2000											
FY 2001			FY 2000											
FY 2002			FY 2000											
FY 2003			FY 2000											
Remarks:			FY 2000											

INDIVIDUAL MODIFICATION		Date	February 1987
MODIFICATION TITLE: Driver's Viewer Quick Release (DVQR) 1-92-05-4427			
MODELS OF SYSTEMS AFFECTED: M1 = 0 ; IPM1 = 0 ; M1A1 = 4351 and M1A2 = 181 TOTAL RQMT = 4532ea			
DESCRIPTION / JUSTIFICATION: <p>The Driver's Viewer Quick Release is a modification to the Driver's Night Viewer [DNV] Periscope Hatch Retainer. It provides a more positive locking feature which will preclude inadvertent release of the periscope from its operations position. Its main purpose is to prevent the DNV from falling into the driver's lap when it is moved out of the driver's way as he exits the vehicle precluding injury to the driver as well as damage to the periscope. Because of its potential importance in emergency driver egress this modification has a secondary safety designation. It is however, primarily an operational improvement.</p> <p>USER PRIORITY: 4g</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
	N/A	N/A	
Critical Design Review:	4Q93	4Q93	
Contractor Test and Evaluation:	N/A	N/A	
Development Test and Evaluation:	1Q94	1Q94	
Initial Operational Test and Evaluation:	N/A	N/A	
IPR Production Decision	4Q93	4Q93	
TDP Available:	2Q94	3Q94	

MODIFICATION TITLE (Cont): Driver's Viewer Quick Release (DVQR) 1-92-05-4427

February 1997

Date

FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
1505		1027		1000		1000												4532	
	0.2		0.1		0.1		0.1												0.5
785	0.1	720	0.1															1505	0.2
				1027	0.2	1000	0.2	1000	0.2									1027	0.2
								1000	0.2									1000	0.2
																		1000	0.2
785	0.1	720	0.1	1027	0.2	1000	0.2	1000	0.2									4532	0.8
	0.3		0.2		0.3		0.3		0.2										1.3

METHOD OF IMPLEMENTATION: Depot Field Teams  
 Contract Dates: FY 1997: OCT 96 DEC 96  
 Delivery Date: FY 1997: DEC 96  
 ADMINISTRATIVE LEADTIME: FY 1998: OCT 97 DEC 97  
 PRODUCTION LEADTIME: 3 Months  
 FY 1999: OCT 98 DEC 98

Installation Schedule: Driver's Viewer Quick Release (DVQR) 1-92-05-4427													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	Total
<b>Inputs</b>													
FY 1996 & Prior	1505												1505
FY 1997	250	250	250	250	27								1027
FY 1998		223	250	250	250	27							1000
FY 1999					223	250	250	250	27				1000
<b>Outputs</b>													
FY 1996 & Prior	785	180	180	180	180								1505
FY 1997		257	257	257	256								1027
FY 1998					250	250	250	250					1000
FY 1999						250	250	250	250				1000
<b>Inputs</b>													
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4	Total
FY 2001													
FY 2002													
FY 2003													
<b>Outputs</b>													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
<b>Remarks:</b>													
** Less than \$0.1M.													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Pulse Jet Air System (PJAS) 1-92-05-4475			
MODELS OF SYSTEMS AFFECTED: M1 = 0 ; IPM1 = 0; M1A1 = 4351 ; and M1A2 = 228 TOTAL RQMT = 4579ea			
DESCRIPTION / JUSTIFICATION:			
<p>The PJAS modification extends the time between required service to the air filtration system of Abrams tanks in a severe dust environment. The current system requires frequent servicing in such an environment which can introduce dust into the engine as the integrity of the clean air path is broken during servicing. PJAS will greatly reduce the frequency of such servicing, thus improving combat performance and reducing O&amp;S costs. PJAS was identified as user priority Number One by Abrams Tank units involved in ODS (Operation Desert Storm).</p>			
USER PRIORITY: 5			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED 2Q92	ACCOMPLISHED 2Q92	
Critical Design Review:	3Q92	3Q92	
Contractor Test and Evaluation:	3Q93	3Q93	
Development Test and Evaluation:	3Q93	3Q93	
Initial Operational Test and Evaluation:	4Q93	4Q93	
IPR Production Decision	4Q93	4Q93	
TDP Available:	2Q96	2Q96	





Installation Schedule: Pulse Jet Air System (PJAS) 1-92-05-4475

	FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				Total
	& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Inputs																									
FY 1996 & Prior	66	50	50	50	50	35	35	35	35	35	35	16													
FY 1997												26	36	36	36	10									
FY 1998																24									
FY 1999																2	36	24							
Outputs																									
FY 1996 & Prior	1	70	70	70	67	16	16	16	16	16	15	15	15	15	16	12									
FY 1997																4	15	15							
FY 1998																						110			
FY 1999																						24			
																						62			
</																									

\* Includes FY04 & out "To Complete" Quantity.

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Mounted Water Ration Heater (MWRH) 1-92-05-4426			
MODELS OF SYSTEMS AFFECTED:		M1 = 0 ; IPM1 = 0 ; M1A1 = 1501 and M1A2 = 1079	TOTAL RQMT = 2580ea
DESCRIPTION / JUSTIFICATION:			
<p>The purpose of the Mounted Water Ration Heater [MWRH] is to provide the Abrams Tank crew with the internal capability to heat water and rations during extended field operations without having to exit from the protection of the vehicle.</p> <p>NOTE: ATCOM / PM SOLDIER have procured the MWRH. Abrams Tank funds listed here - in are for the integration kit and installation only.</p> <p>USER PRIORITY: ap10</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	4Q92	ACCOMPLISHED
Critical Design Review:		1Q93	1Q93
Contractor Test and Evaluation:		1Q93	1Q93
Development Test and Evaluation:		3Q93	3Q93
Initial Operational Test and Evaluation:		3Q93	3Q93
IPR Production Decision		2Q95	4Q95
TDP Available:		3Q96	3Q96



Installation Schedule: Mounted Water Ration Heater (MWRH) 1-92-05-4426

	FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		February 1997	
	FY 1996	& Prior	FY 1996	FY 1997	FY 1998	FY 1998	FY 1999	FY 1999	FY 2000	FY 2000	FY 2001	FY 2001	FY 2002	FY 2002	FY 2003	FY 2003	FY 2004	FY 2004	FY 2005	FY 2005	February 1997	February 1997
<b>Inputs</b>																						
FY 1996 & Prior	17	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
FY 1997																						
FY 1998																						
FY 1999																						
<b>Outputs</b>																						
FY 1996 & Prior																						
FY 1997																						
FY 1998																						
FY 1999																						
<b>Inputs</b>																						
FY 2000																						
FY 2001																						
FY 2002																						
FY 2003																						
<b>Outputs</b>																						
FY 2000																						
FY 2001																						
FY 2002																						
FY 2003																						
<b>Remarks:</b>	Installation Less Than \$0.1M.																					

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Prior Year MOD Kit Applications N/A			
MODELS OF SYSTEMS AFFECTED:		M1 = 355 ; IPM1 = 892; M1A1 = 4351 and M1A2 = 1079	TOTAL RQMT = 6847ea
DESCRIPTION / JUSTIFICATION:			
Continuing effort to install / apply modification kits procured during or before FY90. This effort was previously budgeted and executed within O&MA [P7M].			
USER PRIORITY: ap1 through ap24 [Less ap2, ap7, ap8, ap10 and ap 12]			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	
	N / A	N / A	
Critical Design Review:	N / A	N / A	
Contractor Test and Evaluation:	N / A	N / A	
Development Test and Evaluation:	N / A	N / A	
Initial Operational Test and Evaluation:	N / A	N / A	
IPR Production Decision	N / A	N / A	
TDP Available:	N / A	N / A	

INDIVIDUAL MODIFICATION															February 1997				
MODIFICATION TITLE (Cont):															Prior Year MOD Kit Applications N/A				
FINANCIAL PLAN: (\$ in Millions)																			
	FY 1996 and Prior Qty	FY 1996 \$	FY 1997 Qty	FY 1997 \$	FY 1998 Qty	FY 1998 \$	FY 1999 Qty	FY 1999 \$	FY 2000 Qty	FY 2000 \$	FY 2001 Qty	FY 2001 \$	FY 2002 Qty	FY 2002 \$	FY 2003 Qty	FY 2003 \$	TC		TOTAL
																	Qty	\$	
RDT&E																			
PROCUREMENT																			
Kit Quantity	6847																		6847
Installation Kits																			
Installation Kits Nonrecurring																			
Equipment																			
Equipment Nonrecurring																			
Engineering Change Orders																			
Data																			
Training Equipment																			
Support Equipment																			
Other																			
Interim Contractor Support																			
Installation of Hardware																			
FY 1996 & Prior Eqpt - 6847	6408	65.0	439	2.4															6847
FY 1997 Eqpt -- Kits																			
FY 1998 Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- kits																			
FY 2001 Eqpt -- kits																			
FY 2002 Eqpt -- kits																			
FY 2003 Eqpt -- kits																			
(FY(TC) Eqpt (xx kits)																			
Total Installation Cost	6408	65.0	439	2.4															6847
Total Procurement Cost		65.0		2.4															67.4

METHOD OF IMPLEMENTATION: Depot Teams  
 Contract Dates: FY 1997:      FY 1998:      FY 1999:      N/A      Months  
 Delivery Date: FY 1997:      FY 1998:      FY 1999:      N/A      Months





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		2nd Gen Forward Looking Infra-Red (2GFLIR) 1-96-05-4504	
MODELS OF SYSTEMS AFFECTED:		M1 = 0 ; IPM1 = 0 ; M1A1 = 0 ; M1A2 = 617	
DESCRIPTION / JUSTIFICATION:		<p>2nd Generation Forward Looking Infra - red [ 2G FLIR ] is a component based improvement to the M1A2 Commander's Independent Thermal Viewer [ CITV ] and Thermal Imaging System [ TIS ] which is designed to significantly increase the capabilities of these sub - systems. The new capabilities will greatly improve the tank crew's ability to detect, recognize and identify potential targets during the day, night or through smoke, fog or other battlefield obscurants.</p> <p>USER PRIORITY # 3</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Examples			
Preliminary Design Review:			
Critical Design Review:			
Contractor Test and Evaluation:			
Development Test and Evaluation:			
Initial Operational Test and Evaluation:			
IPR Production Decision			
TDP Available: .			



Installation Schedule: 2nd Gen Forward Looking Infra-Red (2GFLIR) 1-96-05-4504																															
FY 1996				FY 1997				FY 1998				FY 1999				FY 2000				February 1997											
& Prior				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4												
Inputs				Date																											
FY 1996 & Prior				FY 2001																											
FY 1997				FY 2000																											
FY 1998																															
FY 1999																															
Outputs																															
FY 1996 & Prior																															
FY 1997																															
FY 1998																															
FY 1999																															
Total																															
				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				TC							
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
				</																											

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: System Enhancement Package (SEP) 1-96-05-4505			
MODELS OF SYSTEMS AFFECTED: M1 = 0 ; IPM1 = 0 ; M1A1 = 0 ; M1A2 = 617			
DESCRIPTION / JUSTIFICATION:			
<p>The System Enhancement Package [SEP] consists of M1A2 Hardware &amp; Software changes which support the US Army's Digitization of the Battlefield effort. This effort upgrades the M1A2 electronics with improved processors, increased memory and Software partitioning necessary for the M1A2 to operate in the Army's common operating environment. The upgrade also provides the future growth without significant changes to the vehicle architecture allowing for insertion of technology forecast to mature through 2003. These changes are designed to be exportable to other Abrams platforms, meet Army requirements for joint interoperability with Combined Arms Command and Control Systems and maximize compatibility / commonality with other Ground Combat Systems.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Examples	PLANNED	ACCOMPLISHED	
Preliminary Design Review:	3Q96	3Q96	
Critical Design Review:	1Q97	1Q97	
Contractor Test and Evaluation:	2Q97		
Development Test and Evaluation:	4Q97		
Initial Operational Test and Evaluation:	2Q98		
IPR Production Decision	3Q98		
TDP Available:	4Q98		

INDIVIDUAL MODIFICATION															Date		February 1997	
MODIFICATION TITLE (Cont):															System Enhancement Package (SEP) 1-96-05-4505			
FINANCIAL PLAN: (\$ in Millions)																		
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC		TOTAL							
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	\$				
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$				
RDT&E																		
PROCUREMENT																		
Kit Quantity					2	36	64	85		430		617						
Installation Kits																		
Installation Kits Nonrecurring																		
Equipment																		
Equipment Nonrecurring																		
Engineering Change Orders																		
Data																		
Training Equipment																		
Support Equipment																		
Other																		
Interim Contractor Support																		
Installation of Hardware																		
FY 1996 & Prior Eqpt -- Kits																		
FY 1997 Eqpt -- Kits																		
FY 1998 Eqpt -- Kits																		
FY 1999 Eqpt -- Kits																		
FY 2000 Eqpt -- Kits																		
FY 2001 Eqpt -- Kits																		
FY 2002 Eqpt -- Kits																		
FY 2003 Eqpt -- Kits																		
(FY(TC) Eqpt (xx kits)																		
Total Installation Cost																		
Total Procurement Cost																		
					1.2	19.7	35.8	47.6		254.1		358.4						
METHOD OF IMPLEMENTATION: Prime Contractor will Install																		
Contract Dates: FY 1997: FY 1998: FY 1999:																		
Delivery Date: FY 1997: FY 1998: FY 1999:																		
ADMINISTRATIVE LEADTIME: 6 Months																		
PRODUCTION LEADTIME: 10 Months																		



INDIVIDUAL MODIFICATION		Date
MODIFICATION TITLE:		February 1997
Embedded Battle Command 1-96-05-4516		
MODELS OF SYSTEMS AFFECTED: M1 = 0 ; IPM1 = 0 ; M1A1 = 0 ; M1A2 = 1079		
DESCRIPTION / JUSTIFICATION:		
<p>Embedded Battle Command [ EBC ] is a part of Horizontal Battlefield Digitization [ HBD ]. It is an annual software "Drop" into each fielded M1A2 tank. There is no hardware associated with this modification. The purpose of HBD is to assure that all M1A2's have Up - to - Date and identical computer software with the latest State - of - the - Art changes installed on a regular basis.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		
Examples	PLANNED	ACCOMPLISHED
Preliminary Design Review:	2Q97	
Critical Design Review:	3Q97	
Contractor Test and Evaluation:	4Q97	
Development Test and Evaluation:	2Q98	
Initial Operational Test and Evaluation:	3Q98	
IPR Production Decision	4Q98	
TDP Available:	2Q99	







INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: External Auxiliary Power Unit (EAPU) 1-85-05-4057			
MODELS OF SYSTEMS AFFECTED: M1 = 0 ea., IPM1 = 0 ea., M1A1 = 1500 ea., M1A2 = 0 ea., Total = 1500 ea.			
DESCRIPTION / JUSTIFICATION:			
<p>The current use of the Abrams Tank during stationary Tank night defensive positions, or Silent Watch Mode requires frequent, long duration idling of the AGT-1500 main vehicle engine in order that electricity be available. This modification will provide power for electrical requirements at greatly reduced fuel usage, and without main engine wear. The External Auxiliary Power Unit (EAPU) continuously delivers 2 KW of power at 28 Volts DC. It will be mounted in the left side of the turret bustle rack and will be fully integrated with the tank electrical system. The EAPU has its own fuel supply and can provide power for 10 to 12 hours on one tank-full of diesel fuel.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Examples		PLANNED	ACCOMPLISHED
Preliminary Design Review:		N/A *	
Critical Design Review:		N/A *	
Contractor Test and Evaluation:		N/A *	
Development Test and Evaluation:		N/A *	
Initial Operational Test and Evaluation:		N/A *	
IPR Production Decision		N/A *	
TDP Available:		N/A *	
<p>* Re - Buy of an item last procured in FY92</p>			

INDIVIDUAL MODIFICATION														
External Auxiliary Power Unit (EAPU) 1-85-05-4057														
MODIFICATION TITLE (Cont):														
FINANCIAL PLAN: (\$ in Millions)														
	FY 1996 and Prior	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC		TOTAL			
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty		
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		
RDT&E														
PROCUREMENT														
Kit Quantity		336									1500			
Installation Kits														
Installation Kits Nonrecurring														
Equipment			11.0							1164				
Equipment Nonrecurring											44.4			
Engineering Change Orders												55.4		
Data														
Training Equipment														
Support Equipment														
Other														
Interim Contractor Support														
Installation of Hardware														
FY 1996 & Prior Eqpt -- Kits														
FY 1997 Eqpt -- Kits			336								336	2.1		
FY 1998 Eqpt -- Kits														
FY 1999 Eqpt -- Kits														
FY 2000 Eqpt -- Kits														
FY 2001 Eqpt -- Kits														
FY 2002 Eqpt -- Kits														
FY 2003 Eqpt -- Kits														
(FY(TC) Eqpt (xx kits)										1164	8.6	8.6		
Total Installation Cost			336	2.1						1164	8.6	10.7		
Total Procurement Cost										1164	1500	66.1		

METHOD OF IMPLEMENTATION				Contractor / Depot Teams				ADMINISTRATIVE LEADTIME:				PRODUCTION LEADTIME:			
Contract Dates:				FY 1997: JUL 97				FY 1998: JUL 97				FY 1999: JUL 97			
Delivery Date:				FY 1997: JAN 98				FY 1998: JAN 98				FY 1999: JAN 98			
				4 Months				6 Months				6 Months			

Installation Schedule: External Auxiliary Power Unit (EAPU) 1-85-05-4057																	
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2003		FY 2004		FY 2005			
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Inputs																	
FY 1996 & Prior																	
FY 1997		120 120 96															
FY 1998																	
FY 1999																	
Outputs																	
FY 1996 & Prior																	
FY 1997		110 112 114															
FY 1998																	
FY 1999																	
Inputs																	
FY 2000		1 2		3 4		1 2		3 4		1 2		3 4		1 2		3 4	
FY 2001																	
FY 2002																	
FY 2003																	
Outputs																	
FY 2000																	
FY 2001																	
FY 2002																	
FY 2003																	
Remarks:																	

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: External Auxiliary Power Unit (EAPU) Upgrade TBD2			
MODELS OF SYSTEMS AFFECTED: M1 = 0 ; IPM1 = 0 ; M1A1 = 1500 ; M1A2 = 0			
DESCRIPTION / JUSTIFICATION: This modification is the Upgrade of 1500ea External Auxiliary Power Units (EAPU's) originally procured / fielded in FY91 / 93. The upgrade will replace the 12 volt Starter with a 24 volt starter; add an improved voltage regulator; add a NATO receptacle and remove the 24 volt Battery. These changes will increase the reliability and durability of the existing EAPU's.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Examples		PLANNED	ACCOMPLISHED
Preliminary Design Review:		3Q95	3Q95
Critical Design Review:		1Q96	1Q96
Contractor Test and Evaluation:		2Q96	2Q96
Development Test and Evaluation:		N / A	N / A
Initial Operational Test and Evaluation:		4Q96	4Q96
IPR Production Decision		4Q96	4Q96
TDP Available:		2Q97	



Installation Schedule:	External Auxiliary Power Unit (EAPU) Upgrade TBD2
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	FY 1996 & Prior				FY 1997				FY 1998				FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Total								
Inputs																																									
FY 1996 & Prior																																	1500								
FY 1997																																									
FY 1998																																									
FY 1999																																									
Outputs																																									
FY 1996 & Prior																																	1500								
FY 1997																																									
FY 1998																																									
FY 1999																																									
</																																									

Remarks:

\*\* PRIME CONTRACTOR WILL UPGRADE EACH EAPU ON SITE. HARDWARE FOR THIS EFFORT IS READILY AVAILABLE.

BUDGET ITEM JUSTIFICATION SHEET											
APPROPRIATION / BUDGET ACTIVITY			DATE								
PROCUREMENT OF WPNS & TRKO CMBT VEHS /Tracked Combat Vehicles			February 1997								
P-1 ITEM NOMENCLATURE			ABRAMS UPGRADE PROGRAM (QA0750)								
QUANTITY	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program
	206	100	120	120	120	120	92	30	30	60	998
COST (in millions)	790.1	267.9	204.8	328.6	420.3	402.3	346.8	164.3	268.0	452.7	3645.8
Initial Spares (in millions)	4.3	16.0	9.3	13.9	10.1	10.3	11.3	18.8	19.1	35.0	148.2
Total (in millions)	794.4	284.0	214.1	342.6	430.4	412.6	358.1	183.1	287.0	487.7	3794.0
Unit Cost (in millions)	3.9	2.8	1.8	2.9	3.6	3.4	3.9	6.1	9.6	8.1	3.8
<p><b>DESCRIPTION:</b> The Abrams Tank Upgrade Program supports the Department of Army vision for the future. The Upgrade Program will reconfigure M1 Tanks to the M1A2 configuration making it a more survivable and lethal tank. This includes the Commander's Independent Thermal Viewer (CITV), Improved Commander's Weapon Station (ICWS), Position Navigation (POS/NAV) equipment, Radio Interface Unit (RIU), Core Architecture, D.U. Armor, 120mm Gun, and Nuclear, Biological and Chemical (NBC) protection. In FY98 2nd Generation Forward Looking Infrared (FLIR) and vehicle core electronic upgrades will be cut into production.</p> <p><b>JUSTIFICATION:</b> The Upgrade Program will modernize the U.S. Army's armor force to enhance the combat effectiveness of the Abrams Tank Fleet and maintain the key elements of the tank industrial base.</p>											
PROGRAM SUMMARY											
	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	TO COMPLETE	TOTAL PROG	
Weapon Sys Cost	449.687	502.004	587.714	686.521	673.007	615.190	322.816	395.974	620.767	4853.680	
Less Adv Proc PY	181.773	297.218	259.086	266.228	270.691	268.407	158.481	128.017	168.081	1997.982	
Cur Year Prog	267.914	204.786	328.628	420.293	402.316	346.783	164.335	267.957	452.686	2855.698	
Plus Adv Cur Year	297.218	259.086	266.228	270.691	268.407	158.481	128.017	89.310	78.771	1816.209	
Total Cur Year	565.132	463.872	594.856	690.984	670.723	505.264	292.352	357.267	531.457	4671.907	



WTCV Cost Analysis			A. APPN/BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles					B. WEAPON ABRAMS UPGRADE PROGRAM (GA0750)			C. MANUFACTURER NAME General Dynamics Land System (GDL-S)		D. DATE February 1997	
WTCV			FY 96					FY 97			FY 98		FY 99	
Cost Elements			TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
1. Basic Vehicle	A		215534	100	2155	290478	120	2421	296947	120	2475	323581	120	2697
2. Armor			29335	80	367	35227	122	289	39292	121	325	40185	120	335
3. H/TEU			5850	200	29	7170	240	30	6921	220	31			
4. Engine (DECU)			2333	100	23	2520	120	21	2586	120	22	2654	120	22
5. Transmissions			25017	100	250	31183	120	260	31996	120	267	32840	120	274
6. Final Drives			1382	200	7	1494	240	6	1533	240	6	1573	240	7
7. Fire Control			32696	100	327	39302	120	328	36970	120	308	1579	120	13
8. Track			3338	15600		5696	18720		5845	18720		5999	18720	
9. Road Wheels			919	3200		1421	3840		1458	3840		1496	3840	
10. Gun Mounts			2086	50	42	2057	60	34	2111	60	35	2167	60	36
11. Gun			11701	100	117	11429	120	95	11726	120	98	12036	120	100
12. Drivers Night Viewer			540	100	5	648	120	5	665	120	6	682	120	6
13. Basic Issue Items			752	100	8	804	120	7	821	120	7	838	120	7
14. MILSTRIPS / RIK			499	100	5	612	120	5	625	120	5	639	120	5
15. VIS			570	60	10	1058	120	9	1085	120	9	1114	120	9
16. Special Tools / Test Sets			4671			5715			5835			5959		
17. Contract Engineering			83732			34393			43379			60420		
18. Project Management Admin			2401			2448			2499			2552		
19. MATRIX Support			3830			3906			3987			4071		
20. Auxiliary Services			819			835			852			870		
21. Engineering Support			5646			5757			5878			6002		
22. Quality Support			1184			1207			1233			1259		
23. Testing			3931			4008			4092			4179		
24. First Destination Transportation			504			617			630			643		
25. Total Package Fielding			10417			12019			12271			12533		
26. II Gen FLIR (A Kit) FPDT02									16586	10	1659	58958	120	491
27. II Gen FLIR (B Kit) FPDT01									20041	20	1002	71238	240	297
28. STS C2 FPTA									1059			1050		
29. ANAD									28791			29404		
Weapon Sys Cost			449687	100	4497	502004	120	4183	587714	120	4898	686521	120	5721
Less Adv Proc PY			181773			297218			259086			266228		
Cur Year Proq			267914			204786			328628			420293		
Plus Adv Cur Yr			297218			259086			266228			270691		
Tot Cur Year			565132			463872			594856			690984		

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										
B. APPROPRIATION / BUDGET ACTIVITY					DATE		February 1997			
C. P-1 ITEM NOMENCLATURE										
ABRAMS UPGRADE PROGRAM (GA0750)										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
1. Basic Vehicle										
FY 96	GDLS / 1	SS/FFP/M5(1)	TACOM-Warren	Jul-96	Oct-96	100	2155	Yes	No	
FY 97	GDLS / 1	SS/FFP/M5(2)	TACOM-Warren	Dec-96	Aug-97	120	2421	Yes	No	
FY 98	GDLS / 1	SS/FFP/M-5(3)	TACOM-Warren	Mar-98	Aug-98	120	2475	Yes	No	
FY 99	GDLS / 1	SS/FFP/M-5(4)	TACOM-Warren	Mar-99	Aug-99	120	2697	Yes	No	
2. Armor /2										
FY 96	LITCO /4	SS/CPFF	DOE /3	Mar-95	Apr-96	80	367	N/A	N/A	
FY 97	LITCO /4	SS/CPFF	DOE /3	Mar-96	Feb-97	122	289	N/A	N/A	
FY 98	LITCO /4	SS/CPFF	DOE /3	Dec-96	Feb-98	121	325	N/A	N/A	
FY 99	LITCO /4	SS/CPFF	DOE /3	Mar-98	Feb-99	120	335	N/A	N/A	
3. Hull/Turret Electronic Unit										
FY 96	GDLS /1	SS/FFP	TACOM-Warren/5	Apr-95	Apr-96	200	29	Yes	No	
FY 97	GDLS /1	C/FFP	TACOM-ACALA/6	May-96	Feb-97	240	30	Yes	No	
FY 98	GDLS /1	OPTION	TACOM-ACALA/6	Mar-97	Feb-98	220	31	Yes	No	
4. Engine (DECU)										
FY 96	AlliedSignal/7	SS/FFP	TACOM-Warren	Feb-95	Apr-96	100	23	Yes	No	
FY 97	AlliedSignal/7	OPTION	TACOM-Warren	Mar-96	Feb-97	120	21	Yes	No	
FY 98	AlliedSignal/7	SS/FFP	TACOM-Warren	Mar-97	Feb-98	120	22	Yes	No	
FY 99	AlliedSignal/7	OPTION	TACOM-Warren	Mar-98	Feb-99	120	22	Yes	No	
REMARKS:										
1. General Dynamics Land System, Warren, MI										
2. Armor production leads tank production										
3. Department of Energy										
4. Lockheed Idaho Technologies Company, Idaho Falls, Idaho										
5. Awarded to GDLS as part of the Long Lead Material Contract.										
6. Awarded to GDLS on a separate competitive contract.										
7. AlliedSignal/Control & Accessories, Tucson, AZ										

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
B. APPROPRIATION / BUDGET ACTIVITY											
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles											
C. P-1 ITEM NOMENCLATURE											
ABRAMS UPGRADE PROGRAM (GA0750)											
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A	
5. Transmissions											
FY 96	Allison Trans/1	OPTION	TACOM-Warren	Apr-95	Apr-96	100	250	Yes	No		
FY 97	Allison Trans/1	OPTION	TACOM-Warren	Dec-95	Feb-97	120	260	Yes	No		
FY 98	Allison Trans/1	SS/FFP/CP	TACOM-Warren	Feb-97	Feb-98	120	267	Yes	No		
FY 99	Allison Trans/1	OPTION	TACOM-Warren	Dec-97	Feb-99	120	274	Yes	No		
6. Final Drives											
FY 96	TACOM NICP	Requisition	TACOM-Warren	Mar-95	Apr-96	200	7	Yes	No		
FY 97	Loc Perf/2	C/FFP	TACOM-Warren	Nov-95	Feb-97	240	6	Yes	No		
FY 98	Loc Perf/2	OPTION	TACOM-Warren	Mar-97	Feb-98	240	6	Yes	No		
FY 99	Loc Perf/2	OPTION	TACOM-Warren	Mar-98	Feb-99	240	7	Yes	No		
7. Fire Control/3											
FY 96	Hughes/Various	Various	TACOM-ACALA	Various	Apr-96	100	327	Yes	No		
FY 97	Hughes/Various	Various	TACOM-ACALA	Various	Feb-97	120	308	Yes	No		
FY 98	Hughes/Various	Various	TACOM-ACALA	Various	Feb-98	120	13	Yes	No		
FY 99	Hughes/Various	Various	TACOM-ACALA	Various	Feb-99	120	13	Yes	No		
8. Track											
FY 96	Goodyear Tire & Rubber/4	C/FFP	TACOM-Warren	Feb-96	Apr-96	15600		Yes	No		
FY 97	Goodyear Tire & Rubber/4	OPTION	TACOM-Warren	Mar-96	Feb-97	18720		Yes	No		
FY 98	TBD	C/FFP	TACOM-Warren	Nov-96	Feb-98	18720		Yes	No		
FY 99	TBD	OPTION	TACOM-Warren	Mar-98	Feb-99	18720		Yes	No		
REMARKS:											
1. Allison Transmission Div, GM Corp, Indianapolis, IN 2. Loc Performance, Inc, Plymouth, MI 3. Hughes Aircraft, El Segundo, CA 4. Goodyear Tire & Rubber Co., Akron, OH											

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
C. P-1 ITEM NOMENCLATURE											
B. APPROPRIATION / BUDGET ACTIVITY											
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles											
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A	
9. Road Wheels											
FY 96	B&C Corp/1	Requirement Cntr/FFP	TACOM-Warren	Dec-95	Apr-96	3200		Yes	No		
FY 97	B&C Corp/1	Requirement Cntr/FFP	TACOM-Warren	Mar-96	Feb-97	3840		Yes	No		
FY 98	B&C Corp/1	Requirement Cntr/FFP	TACOM-Warren	Dec-96	Feb-98	3840		Yes	No		
FY 99	B&C Corp/1	Requirement Cntr/FFP	TACOM-Warren	Mar-98	Feb-99	3840		Yes	No		
10. Gun Mounts/2											
FY 96	RIA	WR	RIA	Jun-95	Apr-96	50	42	Yes	No		
FY 97	RIA	WR	RIA	Mar-96	Feb-97	60	34	Yes	No		
FY 98	RIA	WR	RIA	Mar-97	Feb-98	60	35	Yes	No		
FY 99	RIA	WR	RIA	Mar-98	Feb-99	60	36	Yes	No		
11. Gun											
FY 96	Watervliet	WR	Watervliet	Mar-95	Apr-96	100	117	Yes	No		
FY 97	Watervliet	WR	Watervliet	Apr-96	Feb-97	120	95	Yes	No		
FY 98	Watervliet	WR	Watervliet	Mar-97	Feb-98	120	98	Yes	No		
FY 99	Watervliet	WR	Watervliet	Mar-98	Feb-99	120	100	Yes	No		
12. Drivers Night Viewer											
FY 96	CECOM NICP	Requisition	CECOM	Jul-95	Apr-96	100	5	Yes	No		
FY 97	CECOM NICP	Requisition	CECOM	Jun-96	Feb-97	120	5	Yes	No		
FY 98	TBD	TBD	CECOM	Jul-97	Feb-98	120	6	Yes	No		
FY 99	TBD	TBD	CECOM	Jul-98	Feb-99	120	6	Yes	No		
REMARKS:											
1. B&C Corp, Barberton, OH											
2. RIA, Rock Island Arsenal, Rock Island, IL produces 50% of gun mounts.											
The remainder are procured with the GDLS contract.											

# **BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)**

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)											DATE
B. APPROPRIATION / BUDGET ACTIVITY											
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles											
C. P-1 ITEM NOMENCLATURE											
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A	
13. Basic Issue Items											
FY 96	TACOM-ACALA	WR	TACOM-ACALA	May-95	Apr-96	100	8	Yes	No		
FY 97	TACOM-ACALA	WR	TACOM-ACALA	May-96	Feb-96	120	7	Yes	No		
FY 98	TACOM-ACALA	WR	TACOM-ACALA	May-97	Feb-96	120	7	Yes	No		
FY 99	TACOM-ACALA	WR	TACOM-ACALA	May-98	Feb-96	120	7	Yes	No		
14. MILSTRIPS/RIK											
FY 96	N/A	REQN/WR	TACOM-ACALA/CECOM	Various	Apr-96	100	5	Yes	No		
FY 97	N/A	REQN/WR	TACOM-ACALA/CECOM	Various	Feb-97	120	5	Yes	No		
FY 98	N/A	REQN/WR	TACOM-ACALA/CECOM	Various	Feb-98	120	5	Yes	No		
FY 99	N/A	REQN/WR	TACOM-ACALA/CECOM	Various	Feb-99	120	5	Yes	No		
15. VIS/1											
FY 96/3	Grumman /2	C/FFP/Option	CECOM	Dec-95	Apr-96	60	10	Yes	No		
FY 97	Grumman /2	C/FFP/Option	CECOM	May-96	Feb-97	120	9	Yes	No		
FY 98	Grumman/2	C/FFP/Option	CECOM	Apr-97	Feb-98	120	9	Yes	No		
FY 99	Grumman/2	C/FFP/Option	CECOM	Apr-98	Feb-99	120	9	Yes	No		
26. II Gen FLIR (A Kit) FPD02											
FY 98	TBD	TBD	TBD	Feb-97	Feb-99	10	1659	Yes	Yes	Apr-97	
FY 99	TBD	TBD	TBD	Oct-97	Apr-99	120	491	Yes	Yes	Apr-97	
REMARKS:											
1. VIS, Vehicular Intercommunication System.											
2. Grumman Aerospace Corp, Bethpage, NY											
3. 40 VIS Components were previously procured in Phase I											

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
C. P-1 ITEM NOMENCLATURE										
ABRAMS UPGRADE PROGRAM (GA0750)										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV RECD	IF YES W/A
27. II Gen FLIR (B KII) FPD01	TBD	TBD	TBD	Feb-97	Feb-99	20	1002	Yes	Yes	Apr-97
FY 98	TBD	TBD	TBD	Oct-97	Apr-99	240	297	Yes	Yes	Apr-97
FY 99										
REMARKS:										









BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles										
P-1 ITEM NOMENCLATURE										
ABRAMS UPGRADE PROGRAM (Adv Proc) (GA0750)										
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
COST (in millions)	297.2	259.1	266.2	270.7	268.4	158.5	128.0	89.3		
<p>DESCRIPTION: Advance procurement for long lead materials to support procurement for the Abrams Upgrade Program.</p> <p>JUSTIFICATION: Without advance procurement funds, procurement of components, assemblies and raw materials to support procurement, long lead time would not be possible and would cause a break in production.</p>										

WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10) (PROCUREMENT OF ADVANCE DESIGN AND MATERIAL) (TOA, Dollars in Thousands)									
BUDGET YEAR 1 FOR FISCAL YEAR PROGRAM 1998									
DATE									
February 1997									
INTERVAL BETWEEN SYSTEM COMPLETIONS (MONTHS)									
FIRST SYSTEM AWARD DATE									
MAR 99									
FIRST SYSTEM COMPLETION DATE									
AUG 99									
Production Lead Time in Months (Adm / Prod) - Total									
Delivery Date of First Equipment Required									
Date Contract Award Planned / Required									
Quantity									
Advance Procurement / Advance Funding Items									
1. Basic Vehicle	120	Various	Aug-99	18 Mo	**	966	115976		
2. Armor	121	Mar-98	Feb-99	16 Mo		83	10049		
3. H/TEU	120	Mar-98	Feb-99	16 Mo		22	2621		
4. Engine (DECU)	120	Dec-97	Feb-99	20 Mo		270	32433		
5. Transmissions	240	Mar-98	Feb-99	16 Mo		6	1554		
6. Final Drives	120	Various	Feb-99	16 Mo		13	1559		
7. Fire Control	18720	Mar-98	Feb-99	16 Mo		36	5925		
8. Track	3840	Mar-98	Feb-99	16 Mo		99	1477		
9. Road Wheels	60	Mar-98	Feb-99	16 Mo		6	2140		
10. Gun Mounts	120	Mar-98	Feb-99	16 Mo		6	11887		
11. Gun	120	Jul-98	Feb-99	13 Mo		7	674		
12. Drivers Night Viewer	120	May-98	Feb-99	4 Mo		5	828		
13. Basic Issue Items	120	Various	Feb-99	14 Mo		9	631		
14. MILSTRIPS / RIK	120	Apr-98	Feb-99	15 Mo		292	1100		
15. VIS	120	Oct-97	Feb-99	22 Mo		176	35038		
26. II Gen FLIR (A Kits)	240	Oct-97	Feb-99	22 Mo			42336		
27. II Gen FLIR (B Kits)									
TOTAL:							266228		
NARRATIVE DESCRIPTION									
* Delivery is required 6 months prior to tank delivery									
** Production Lead Time includes the 6 months requirement for components prior to tank delivery									
PLT excludes First Article Test (FAT) or other special test requirements for new producers or other factors.									
ALT is based on current long term contracts. ALT increase with new starts/new contractors/new contracts.									

WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10) (PROCUREMENT OF ADVANCE DESIGN AND MATERIAL) (TOA, Dollars in Thousands)							BUDGET YEAR 2 FOR FISCAL YEAR PROGRAM 1999	
Weapon System Type (Model/Series No.) ABRAMS UPGRADE PROGRAM		FIRST SYSTEM AWARD DATE MAR 00		FIRST SYSTEM COMPLETION DATE AUG 00		February 1997 INTERVAL BETWEEN SYSTEM COMPLETIONS (MONTHS)		
Advance Procurement / Advance Funding Items	Quantity	Date Contract Award Planned / Required	Delivery Date of First Equipment Required	Production Lead Time in Months (Adm / Prod) - Total	Unit Cost	Total Cost		
1. Basic Vehicle	120	Various	Aug-00	18 Mo	1367	164006		
2. Armor	120	Mar-99	Feb-00	16 Mo	85	10229		
3. H/TEU	120	Mar-99	Feb-00	16 Mo	22	2678		
4. Engine (DECU)	120	Dec-98	Feb-00	20 Mo	276	33133		
5. Transmissions	240	Mar-99	Feb-00	16 Mo	7	1587		
6. Final Drives	120	Various	Feb-00	16 Mo	13	1594		
7. Fire Control	18720	Mar-99	Feb-00	16 Mo		6052		
8. Track	3840	Mar-99	Feb-00	16 Mo	36	1509		
9. Roadwheels	60	Mar-99	Feb-00	16 Mo	101	2186		
10. Gun Mounts	120	Mar-99	Feb-00	16 Mo	6	12143		
11. Gun	120	Jul-99	Feb-00	13 Mo	7	689		
12. Drivers Night Viewer	120	May-99	Feb-00	15 Mo	5	841		
13. Basic Issue Items	120	Various	Feb-00	14 Mo	9	642		
14. MILSTRIPS / RIK	120	Apr-99	Feb-00	14 Mo	122	1124		
15. VIS	240	Oct-98	Feb-00	22 Mo	74	14616		
26. II Gen FLIR (A Kits) FPDT						17662		
27. II Gen FLIR (B Kits) FPDT								
TOTAL:						270691		
NARRATIVE DESCRIPTION								
* Delivery is required 6 months prior to tank delivery								
** Production Lead Time includes the 6 months requirement for components prior to tank delivery.								
PLT excludes First Article Test (FAT) or other special test requirements for new producers or other factors.								
ALT is based on current long term contracts. ALT increase with new starts/new contractors/new contracts.								

WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10a) (COMPARISON OF REQUEST TO EXECUTION)						PRIOR YEAR FOR FISCAL YEAR PROGRAM 1996	
(TOA, Dollars in Thousands)						DATE	February 1997
Weapon System Type (Model/Series No.) ABRAMS UPGRADE PROGRAM		FIRST SYSTEM AWARD DATE DEC 96		FIRST SYSTEM COMPLETION DATE Aug 97		INTERVAL BETWEEN SYSTEM COMPLETIONS (MONTHS)	
Advance Procurement / Advance Funding Items Requested / Actual	Quantity	Date Contract Award Required / Actual	Date Delivery of First Equipment Required / Actual	Production Lead Time in Months Total Requested (Adm/Prod) Actual (Adm/Prod)	Total Cost Requested	Actual Contract Cost	
1. Basic Vehicle	120	Various/Various	Aug-97 18 Mo	**	189546	185528	
2. Armor	120	Mar 96/Mar 96	Feb-97 16 Mo		7914	7940	
3. H/TEU	240	May 96/May 96	Feb-97 15 Mo		7152	7152	
4. Engine (DECU)	120	Mar 96/Mar 96	Feb-97 16 Mo		2514	2514	
5. Transmissions	120	Dec 95/Various	Feb-97 20 Mo		25921		
6. Final Drives	240	Mar 96/Nov 95	Feb-97 16 Mo		1490	1488	
7. Fire Control	120	Various/Various	Feb-97 16 Mo		39204		
8. Track	18720	Mar 96/Mar 96	Feb-97 16 Mo		5682	5682	
9. Road Wheels	3840	Mar 96/Mar 96	Feb-97 16 Mo		1417	1417	
10. Gun Mounts	60	Mar 96/Mar 96	Feb-97 16 Mo		2052	2052	
11. Gun	120	Apr 96/Apr 96	Feb-97 15 Mo		11400	11400	
12. Drivers Night Viewer	120	Apr 96/Jun 96	Feb-97 15 Mo		646	646	
13. Basic Issue Items	120	Mar 96/May 96	Feb-97 16 Mo		804	804	
14. MILSTRIPS/RIK	Various	Various/Various	Feb-97 14 Mo		421		
15. VIS		Apr 96/May 96	Feb-97 15 Mo		1055	1055	
TOTAL:					297218	227678	
NARRATIVE DESCRIPTION							
<p>* Delivery is required 6 months prior to tank delivery</p> <p>** Production Lead Time includes the 6 months requirement for components prior to tank delivery.</p> <p>PLT excludes First Article Test (FAT) or other special test requirements for new producers or other factors.</p> <p>ALT is based on current long term contracts. ALT increase with new starts/new contractors/new contracts.</p>							

WEAPON SYSTEM ADVANCE PROCUREMENT EXHIBIT (P-10a) (COMPARISON OF REQUEST TO EXECUTION)										CURRENT YEAR FOR FISCAL YEAR PROGRAM 1997	
(TOA, Dollars in Thousands)										DATE February 1997	
Weapon System Type (Model/Series No.) ABRAMS UPGRADE PROGRAM			FIRST SYSTEM AWARD DATE MAR98		FIRST SYSTEM COMPLETION DATE Aug 98		INTERVAL BETWEEN SYSTEM COMPLETIONS (MONTHS)		Actual Contract Cost		
Advance Procurement / Advance Funding Items Requested / Actual			Quantity		Date Contract Award Required / Actual		Date Delivery of First Equipment Required / Actual		Production Lead Time in Months Total Requested (Adm/Prod) Actual (Adm/Prod)		
									Total Cost Requested		
1. Basic Vehicle			120		Various		Aug-98 18 Mo		127697		
2. Armor			122		Mar 97/Dec 96		Feb-98 16 Mo		9826		
3. H/TEU			220		Mar-97		Feb-98 16 Mo		6870		
4. Engine (DECU)			120		Mar-97		Feb-98 16 Mo		2567		
5. Transmissions			120		Feb-97		Feb-98 17 Mo		31757		
6. Final Drives			240		Mar-97		Feb-98 16 Mo		1522		
7. Fire Control			Various		Various		Feb-98 16 Mo		36893		
8. Track			18720		Mar 97/Nov 96		Feb-98 16 Mo		5801		
9. Road Wheels			3840		Mar 97/Dec 96		Feb-98 16 Mo		1447		
10. Gun Mounts			60		Mar-97		Feb-98 16 Mo		2095		
11. Gun			120		Mar-97		Feb-98 16 Mo		11639		
12. Drivers Night Viewer			120		Jul-97		Feb-98 13 Mo		660		
13. Basic Issue Items			120		May-97		Feb-98 14 Mo		815		
14. MILSTRIPS / RIK			Various		Various		Feb-98 14 Mo		620		
15. VIS			120		Apr-97		Feb-98 15 Mo		1077		
26. II Gen FLIR (A KIts) FPDT			10		Feb-97		Feb-98 22 Mo		8151		
27. II Gen FLIR (B KIts) FPDT			20		Feb-97		Feb-98 22 Mo		9849		
TOTAL:									259086		
									16409		
NARRATIVE DESCRIPTION * Delivery is required 6 months prior to tank delivery ** Production Lead Time includes the 6 months requirement for components prior to tank delivery. PLT excludes First Article Test (FAT) or other special test requirements for new producers or their factors. ALT is based on current long term contracts. ALT increase with new starts/new contractors/new contracts.											

BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Tracked Combat Vehicles		MODIFICATIONS LESS THAN \$2.0M (TCV-WTCV) (GA0925)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0		0	
COST (in millions)	0.6	1.0	1.0	0.0	0.0	0.0	0.0	0.0		0.0	
<p><b>DESCRIPTION:</b> This funding provides for the procurement of hardware kits, their application, and fielding support costs for modification with costs of \$2.0M or less for Weapons &amp; Tracked Combat Vehicles.</p> <p><b>JUSTIFICATION:</b></p> <p><b>WATER/RATION HEATER:</b> Provides mounting provisions and hardware for an electrically operated water heater/cooking unit in the M113 Family of Vehicles. The unit supplies hot water for drinks, reconstitution of rations, bathing and washing, and can be used to boil or fry foods. Increases crew comfort and morale thus improving soldier effectiveness and lengthening the time the soldier can stay in the field.</p>											





MODIFICATION INSTALLATION SUMMARY									
									Date February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
MODIFICATIONS LESS THAN \$2.0M (TCV-WTCV)									
GA0925	0.0	0.6	0.5	0.0	0.0	0.0	0.0	0.0	1.1
Water/Ration Heater									
Totals	0.0	0.6	0.5	0.0	0.0	0.0	0.0	0.0	1.1

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Water/Ration Heater 1-94-05-4473			
MODELS OF SYSTEMS AFFECTED: M113A3, M548A3, M577A3, M58, M1064A3, M1068A3			
DESCRIPTION / JUSTIFICATION:			
<p><b>WATER/RATION HEATER:</b> Provides mounting provisions and hardware for an electrically operated water heater/cooking unit in the M113 Family of Vehicles. The unit supplies hot water for drinks, reconstitution of rations, bathing and washing, and can be used to boil or fry foods. Increases crew comfort and morale thus improving soldier effectiveness and lengthening the time the soldier can stay in the field.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Preliminary Design Review:	PLANNED	ACCOMPLISHED	N/A
Critical Design Review:			N/A
Contractor Test and Evaluation:			N/A
IPR Production Decision			N/A
TDP Available:			Mar-95

INDIVIDUAL MODIFICATION															Date		February 1997			
MODIFICATION TITLE (Cont):															Water/Ration Heater 1-94-05-4473					
FINANCIAL PLAN: (\$ In Millions)																				
	FY 1996 Qty	FY 1996 \$	FY 1997 Qty	FY 1997 \$	FY 1998 Qty	FY 1998 \$	FY 1999 Qty	FY 1999 \$	FY 2000 Qty	FY 2000 \$	FY 2001 Qty	FY 2001 \$	FY 2002 Qty	FY 2002 \$	FY 2003 Qty	FY 2003 \$	TC Qty	TC \$	TOTAL Qty	TOTAL \$
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits	579	0.6	412	0.4	432	0.5													1423	1.5
Installation Kits Nonrecurring Equipment																				
Equipment Nonrecurring																				
Engineering Change Orders																				
Data																				
Training Equipment																				
Support Equipment																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits			579	0.6															579	0.6
FY 1997 Eqpt -- Kits																			412	0.4
FY 1998 Eqpt -- Kits																			432	0.5
FY 1999 Eqpt -- Kits																				
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost			579	0.6	520	0.5													324	0.4
Total Procurement Cost		0.6		1.0		1.0													0.4	3.0

METHOD OF IMPLEMENTATION: Depot/Depot Teams				ADMINISTRATIVE LEADTIME:				PRODUCTION LEADTIME:							
Contract Dates:				FY 1997: Jan 97				FY 1998: Nov 97				FY 1999: Jul 98			
Delivery Date:				FY 1997: Jul 97				FY 1998: Jul 98				FY 1999: Jul 98			



BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles		ITEMS LESS THAN \$2.0M (TCV-WTCV) (GL3100)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0		0	
COST (in millions)	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2		0.2	
<p><b>DESCRIPTION:</b> Provides for procurement/assembly of full tracked vehicle organizational maintenance tool/shop sets. This equipment has multi-applications and is essential for effective maintenance on all tracked vehicles.</p> <p><b>JUSTIFICATION:</b> Required to provide organizational maintenance personnel with equipment essential to maintain full tracked vehicles in an acceptable state of readiness. Funding of this program will establish and maintain the operational capability of the Bradley Fighting Vehicle, M1 Tank, etc.</p>											

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 1 / Tracked Combat Vehicles										B. WEAPON ITEMS LESS THAN \$2.0M (TCV-WTCV) (GL3100)			C. MANUFACTURER NAME Rock Island Arsenal		D. DATE February 1997	
WTCV Cost Elements		FY 96		FY 97		FY 98		FY 99										
ID	CD	TotalCost	Qty	UnitCost	TotalCost	UnitCost	TotalCost	Qty	UnitCost	TotalCost	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	
		\$000	Each	\$000	\$000	\$000	\$000	Each	\$000	\$000	\$000	\$000	Each	\$000	\$000	Each	\$000	
1. Shop Equip, Contact Repair Shop, Light Vhl Mtd	G314	18	2	9									9	1			9	
2. Shop Set, Contact and Emergency Repair, FM	G352	30	3	10	33	3	11	44	4	11	33						11	
3. Tool Set, Full Tracked Vehicle, Org Maint, Sup 2	G649	99	9	11	108	9	12	95	8	12	95					8	12	
TOTAL		147			141			139							137			

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE							February 1997	
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Tracked Combat Vehicles		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	
QUANTITY		0	0	0	0	0	0	0	0	
COST (in millions)		5.3	9.3	8.9	9.2	9.4	9.9	10.7	10.7	
<p><b>DESCRIPTION:</b> This program provides for Provision of Industrial Facilities (PIF). Funds are used to establish, modernize, expand or replace facilities owned by the Army. It provides Production Support, Equipment Replacement (PSR) and Modernization (MOD) to Government owned equipment, real property used in production and production testing of Weapons and Tracked Combat Vehicles. This program also provides funding for the Layaway of Industrial Facilities (LIF) for preservation of equipment and portions of plants which are no longer required for active production and Environmental (Env) restoration to comply with Occupational Safety Health Act (OSHA)for the Environmental Protection Agency (EPA).</p> <p><b>JUSTIFICATION:</b> The FY98 and FY99 request supports major rehabilitation of industrial plant equipment at various facilities, in acquiring components and spare parts for the M-1 and the M-1 Upgrade Program. Contractor plants supported are Lima Army Tank Plant and Scranton Facility.</p>										
		FY 1996	FY 1997	FY 1998	FY 1999	FY 1999				
PIF		3.443	8.959	8.585	8.800					
LIF		0.432	0.360	0.357	0.350					
ENV		1.448								
TOTAL		5.323	9.319	8.942	9.150					

Production Support and Facilities Projects			DATE			
APPROPRIATION / BUDGET ACTIVITY			P-1 ITEM NOMENCLATURE			
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Tracked Combat Vehicles			PRODUCTION BASE SUPPORT (TCV-WTCV) (GA0050)			
PROJECT NO.	TYPE	NAME / LOCATION	FY 1996	FY 1997	FY 1998	FY 1999
49X3002	PSR - Omnibus Design		0.394	0.170	0.125	0.150
Provides funding for design of construction and equipment projects in support of the Army Tank Program.						
49X4281	LIF - Layaway/Redistribution		0.432	0.360	0.357	0.350
Various Government & Contractor Facilities						
Provides for plant clearance and restoration of those areas no longer required for active production. Provides packing, crating, handling and transportation (PCH&T) of Government-owned equipment which is being retained for future production at a location other than where the equipment is currently being used.						
49X6037	PSR - Production Support for Lima Army Tank Plant (LATP)		2.299	4.427	2.500	2.600
Provides for construction and non-routine maintenance of real property facilities, correction of safety deficiencies, and replacement or rehabilitation of production equipment. The funding will also replace deteriorating carbon steel duct work in the small parts paint booth with stainless steel.						
49X6040	PSR - Equipment Replacement & Rehabilitation at & M1 Production Facilities		0.750	4.362	5.960	6.050
Supports production of the Abrams Tank System through replacement and rehabilitation of Government owned equipment at various contractor plants, Lima Army Tank Plant and Scranton Facility.						



Production Support and Facilities Projects		DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE	
PROCUREMENT OF WPNS & TRIKD CMBT VEHS / Tracked Combat Vehicles		PRODUCTION BASE SUPPORT (TCV-WTCV) (GA0050)	
PROJECT NO.	TYPE	NAME / LOCATION	
19X8173	PSR - Annual Support and Environmental Restoration E Stratford Army Engine Plant		1,448
Provides for correction of OSHA/EPA deficiencies and minimum facility projects in support of tank engine production. The Stratford plant manufactures the AGT 1500 engine for the ABRAMS tank.			
		FY 1996	FY 1997
		FY 1998	FY 1999

BUDGET ITEM JUSTIFICATION SHEET												DATE
APPROPRIATION / BUDGET ACTIVITY												February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHs /Weapons and Other Combat Vehicles												
P-1 ITEM NOMENCLATURE												
ARMOR MACHINE GUN, 7.62MM (G13000)												
Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program		
QUANTITY	0	0	2,034	0	1,856	1,875	0	0	2,768	9206		
COST (in millions)	0.0	0.0	20.0	0.0	19.2	19.8	0.0	0.0	29.4	95.4		
Initial Spares (in millions)												
Total (in millions)	0.0	0.0	20.0	0.0	19.2	19.8	0.0	0.0	29.4	95.4		
Unit Cost (in millions)	0.000	0.000	0.010	0.010	0.010	0.011	0.000	0.000	0.011	0.010		
<p><b>DESCRIPTION:</b> The M240B Machine Gun is a ground version of the M240 Machine Gun, the 7.62mm Medium Machine Gun class weapon designed as a coaxial/pintle-mounted weapon for tanks and light armored vehicles. The M240B is an air cooled, link-belt fed, gas operated weapon. The weapon features fixed head space, which permits rapid changing of the barrels. The principle difference between the M240 and the M240B is the addition of a flash suppressor, front sight, carrying handle for the barrel, buttstock, pistol grip, bipod, heat shield and rear sight assembly. The M240B Machine Gun may also be tripod-mounted and used in conjunction with a traversing and elevating mechanism and a flex mount pintle.</p> <p><b>JUSTIFICATION:</b> The M240B Medium Machine Gun is an infantry version of the M240 Armored Machine Gun intended to replace the M60 Series Machine Gun in light infantry, mechanized infantry, and combat engineer units. The US Army has identified a need to upgrade its current inventory of 7.62mm Medium Machine Guns in order to provide the dismounted infantryman a more reliable, accurate, and lethal medium machine gun to suppress and destroy enemy personnel, lightly armored vehicles, and fortified positions.</p>												

This P-form only reflects the quantity bought under the Armor Machine Gun budget line. The total Army Procurement Objective of 10,406 M240B model 7.62mm medium machine guns includes 1,200 weapons procured in FY1996 on GZ1300 (Medium Machine Gun Mod) and 9,206 weapons procured on G130000.

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles				B. WEAPON ARMOR MACHINE GUN, 7.62MM (G13000)				C. MANUFACTURER NAME FN Manufacturing, Inc.		D. DATE February 1997	
WTCV Cost Elements		FY 96		FY 97		FY 98		FY 99					
ID	cd	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
1. Hardware (Incls Flex Mount & Blank Firing Device)					18910	2034	9				6518	673	10
2. Engineering Support - In House Support					324						122		
3. Quality Assurance (ARDEC)					63						22		
4. Engineering Studies					305						100		
5. Testing (TECOM)					120						120		
6. Fielding					259						85		
TOTAL					19981						6967		

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
B. APPROPRIATION / BUDGET ACTIVITY											
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles											
C. P-1 ITEM NOMENCLATURE											
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPECS REV REQD	IF YES W/A	ARMOR MACHINE GUN, 7.62MM (G13000)
Hardware (Incls Flex Mount & Blank Firing Device)											
FY 97	FN Manufacturing, Inc., Columbia, SC	SS/FFP	ACALA	Aug-97	Aug-98	2034		No	Yes		Sep-96
FY 99	FN Manufacturing, Inc., Columbia, SC	SS/FFP M-3(1)	ACALA	Apr-99	Apr-00	673		Yes	No		
REMARKS:											







BUDGET ITEM JUSTIFICATION SHEET											DATE
APPROPRIATION / BUDGET ACTIVITY											February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Weapons and Other Combat Vehicles											
P-1 ITEM NOMENCLATURE											
MACHINE GUN, 5.56MM (SAW) (G12900)											
	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program
QUANTITY	56707	9430	3802	406	1570					7993	79908
COST (in millions)	139.0	27.6	12.1	5.6	4.9	0.0	0.0	0.0	0.0	23.0	212.2
Initial Spares (in millions)											
Total (in millions)	139.0	27.6	12.1	5.6	4.9					23.0	212.2
Unit Cost (in millions)	0.0	0.0	0.0	0.0	0.0					0.0	0.0
<p><b>DESCRIPTION:</b> The Squad Automatic Weapon (SAW) is a lightweight (22 pounds with 200 rounds of ammunition), 5.56mm, one-man operated weapon capable of delivering a sustained volume of automatic, accurate, and lethal fire at ranges of up to 800 meters. The Army configuration was changed Oct 89 to include a spare barrel, additional heat shield and barrel bag.</p> <p><b>JUSTIFICATION:</b> The sustained fire capability and increased range are urgently needed throughout infantry rifle squads in order to enhance their survivability. This lightweight, highly mobile machine gun will be used by infantry, light infantry, airborne infantry, mechanized infantry and elements of the air cavalry units, as well as non-infantry units. This procurement profile will equip selected elements of the above mentioned units on a priority basis.</p>											



WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles				B. WEAPON MACHINE GUN, 5.56MM (SAW) (G12900)				C. MANUFACTURER NAME FN Mfg. Co.		D. DATE February 1997			
WTCV Cost Elements		FY 96				FY 97				FY 98				FY 99	
	ID	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost	TotalCost	Qty	UnitCost		
	CD	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
1. Hardware	A	24817	9430	3	10006	3802	3	1068	406	3	4317	1570	3		
2. GFM		626													
3. Engineering Support - In House Support		54			50			445			200				
4. Quality Assurance (ARDEC)		40			106			89			35				
5. Testing (TECOM)		115			150			70			115				
6. Engineering Change Proposal (ECP's)					444			60			25				
7. ILS		65			65			3837			50				
8. Fielding		1801			1236						145				
9. TDP Maintenance		58													
10. Storage					35										
11. Refurbishment		4													
12. Modified Work Order		5													
TOTAL		27585			12092			5569			4887				

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles										
C. P-1 ITEM NOMENCLATURE										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPECS REV REQ'D	IF YES W/A
Hardware										
FY 96	FN Mfg. Co., Inc., Columbia, SC	SS/FFP M-3(1)	ACALA	Jul-96	Jan-97	9430	3	Yes	No	
FY 97	FN Mfg. Co., Inc., Columbia, SC	SS/FFP M-3(2)	ACALA	Dec-96	Sep-98	3802	3	Yes	No	
FY 98	FN Mfg. Co., Inc., Columbia, SC	SS/FFP M-3(3)	ACALA	Jan-98	Jun-99	406	3	Yes	No	
FY 99	FN Mfg. Co., Inc., Columbia, SC	SS/FFP	ACALA	Jan-99	Jul-99	1570	3	Yes	No	
REMARKS:										

FY 96 / 97 BUDGET PRODUCTION SCHEDULE										P-1 ITEM NOMENCLATURE		MACHINE GUN, 5.56MM (SAW) (G12900)		DATE		February 1997	
M F R		S E V		QTY Each		PROC		ACCEP. PRIOR TO 1 OCT		BAL DUE AS OF 1 OCT		Fiscal Year 96		Fiscal Year 97		Fiscal Year 97	
												Calendar Year 96		Calendar Year 97		Calendar Year 97	
												O N C T		J F M A M J J A S O N D		J F M A M J J A S O N D	
												0.80 0.80 0.80 0.80		0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80		0.40 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.45	
Hardware		1	95 & Pr	A	47.6			35.2	12.4			0.80 0.80 0.80 0.80	0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80	0.40			
		2	95 & Pr	A	9.1			9.1	0.0								
		1	95 & Pr	MC	2.5			2.5	0.0								
		1	95 & Pr	AF	2.5			2.5	0.0								
		1	95 & Pr	SDAF	0.5			0.5	0.0								
		1	95 & Pr	FMS	0.2			0.2	0.0								
		1	FY 96	A	9.4			0.0	9.4								
		1	FY 97	A	3.8			0.0	3.8								
		1	FY 98	A	0.4			0.0	0.4								
		1	FY 99	A	1.6			0.0	1.6								
TOTAL					77.6			50.0	27.6			0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80	0.85				
												MFR Number		ADMIN LEAD TIME		REMARKS	
												1		Prior 1 Oct. After 1 Oct.		Monthly deliveries for FY96 are reduced to allow for constant deliveries for a multi-year acquisition, which includes low requirements in the out years.	
												INITIAL REORDER		7 6		After 1 Oct. 12	
												INITIAL REORDER		7 6		After 1 Oct. 10	
												INITIAL REORDER					
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FY 96 / 97 BUDGET PRODUCTION SCHEDULE										P-1 ITEM NOMENCLATURE										MACHINE GUN, 5.56MM (SAW) (G12900)										DATE										February 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BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Weapons and Other Combat Vehicles		GRENADE LAUNCHER, AUTO, 40MM, MK19-3 (G13400)									
	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program
QUANTITY	11766	1500	2150		720	1067	783	1124	1595	986	21691
COST (in millions)	181.7	32.8	33.2	0.0	13.1	19.9	14.9	21.9	31.8	17.7	367.0
Initial Spares (in millions)											
Total (in millions)	181.7	32.8	33.2		13.1	19.9	14.9	21.9	31.8	17.7	367.0
Unit Cost (in millions)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
<p><b>DESCRIPTION:</b> The MK19, Mod 3 is a self-powered, air-cooled, blowback, 40mm automatic grenade launcher capable of a cyclic rate of 325-375 rounds per minute. It will engage point targets up to 1,500 meters and provide suppressive fire up to 2,200 meters. Component items for this system include the 40mm assembly group 1 and the MK64 mount.</p> <p><b>JUSTIFICATION:</b> The weapon will be mounted on the High Mobility Multi-Purpose Wheeled Vehicle (HMMWV), the Armored Personnel Carrier family of vehicles and the M88A1 Recovery Vehicle. During static defensive operations, it will be ground employed utilizing the M3 Tripod Mount. It will replace select M2 cal .50 and M60 7.62mm machine guns in mechanized, light infantry, engineer, military police, and other combat support and combat service support units. Procurement will help reduce critical supply position for high-priority equipment readiness code (ERC) A shortages in Europe, Korea, and CONUS requirements. The MK175 Pedestal Mount is being incorporated on the MK64 Mount to improve the accuracy and dispersion of the MK19-3 when used on the HMMWV application.</p>											

WTCV Cost Analysis		A. APPN/BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles				B. WEAPON GRENADE LAUNCHER, AUTO, 40MM, MK19-3 (G13400)				C. MANUFACTURER NAME		D. DATE February 1997			
WTCV Cost Elements		FY 96				FY 97				FY 98				FY 99	
ID	CD	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000		
1. Hardware		20079	1500	13	4282 22459 3820	320 1564 266	13 14 14				10339	720	14		
2. Round Removal Tool (GFM)		249			252						88				
3. Engineering Support In House		1785			1190						1036				
4. Quality Assurance (ARDEC)		45			41						5				
5. Integrated Logistic Support		108			50						1360				
6. Engineering Change Proposal		1012			505										
7. Testing (TECOM)		315			324										
8. Fielding		516			245						247				
9. M175 Material Change (Application Costs)		15													
10. MK19 Claim		8688													
TOTAL		32812			33168						13075				

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
B. APPROPRIATION / BUDGET ACTIVITY											
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles											
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A	
Hardware FY96	SACO Defense, Saco, Maine	SS/FFP M-2(1)	ACALA	Jul-96	May-97	1500	14	Yes	No		
FY97	SACO Defense, Saco, Maine	SS/FFP M-2(2)	ACALA	Nov-96	May-98	320	13	Yes	No		
	SACO Defense, Saco, Maine	Option	ACALA	Jun-97	Jul-98	1564	14	Yes	No		
	SACO Defense, Saco, Maine	SS/FFP M-3(1)	ACALA	Jul-97	Oct-00	266	14	Yes	No		
FY99	SACO Defense, Saco, Maine	SS/FFP M-3(2)	ACALA	Dec-98	Mar-00	720	14	Yes	No		
REMARKS:											









BUDGET ITEM JUSTIFICATION SHEET											DATE
APPROPRIATION / BUDGET ACTIVITY											February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles											
P-1 ITEM NOMENCLATURE											
M16 RIFLE (G14900)											
QUANTITY	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program
COST (in millions)	510841	31056	15583	11297	21077	23767	19890	0	0	176639	810150
Initial Spares (in millions)	234.2	13.1	6.5	5.1	9.2	10.2	10.1	0.0	0.0	140.9	429.3
Total (in millions)	234.2	13.1	6.5	5.1	9.2	10.2	10.1	0.0	0.0	140.9	429.3
Unit Cost (in millions)	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.001
<p><b>DESCRIPTION:</b> The M16A2 Rifle, 5.56mm, is a gas operated, air cooled, magazine fed, selective rate shoulder fired weapon. It is fed by a 30 round aluminum magazine and is designed for use as the primary infantry weapon. The M16A2 is an improved version the M16A1 Rifle. Improvements include: strengthened plastic handguard, rifle stock and pistol grip to increase durability of the weapon, interchangeable handguard halves, muzzle brake compensator which reduces the raise or jump of the muzzle when fired, a burst control device limiting the automatic fire to a maximum of three rounds per trigger pull, and adjustable rear sight and square front sight post for a more distinct sight picture, a brass deflector to prevent hot brass cartridge casings from hitting left-handed shooters, and a stronger barrel reinforced with additional metal and a change in the twist ratio of the bore to accommodate NATO standard 5.56mm ammunition. The maximum effective range of the M16A2 has increased from 460 to 550 meters.</p> <p><b>JUSTIFICATION:</b> The M16A2 Rifle Program for FY98/99 provides additional rifles for fielding against the Force Modernization requirement for pure fleeting the field with the M16A2 Rifle. Without additional M16A2 Rifles, a logistic problem associated with different ammunition requirements for the M16A1 vs M16A2 is perpetuated. Funding also supports the M16 Rifle Industrial Base.</p> <p>This P-Form only reflects the Qty bought under the M16 Rifle Line. The total Army Procurement Objective of 925,450 M16A2 rifles includes 115,300 weapons purchased on GZ2800 (M16 Rifle Mods) and 810,150 weapons procured on G14900.</p>											

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles				B. WEAPON M16 RIFLE (G14900)		C. MANUFACTURER NAME FN Mfg. Co.		D. DATE February 1997	
WTCV Cost Elements	ID CD	FY 96		FY 97		FY 98		FY 99			
		TotalCost \$000	Qty Each	UnitCost \$	TotalCost \$000	Qty Each	UnitCost \$	TotalCost \$000	Qty Each	TotalCost \$	UnitCost \$
1. Rifle (Includes Slings and Magazines)	A	12354	31056	398	4109	10320	398	4499	11297	8392	21077
					616	1548	398				
					1480	3715	398				
2. Engineering Support - In House Support		343						409		415	
3. Engineering Change Proposals		125			83			40		64	
4. Quality Assurance (ARDEC)		47			45			46		48	
5. Integrated Logistics Support		65			65			65		65	
6. Testing (TECOM)					130					138	
7. Fielding		133			18			30		30	
TOTAL		13067			6546			5089		9152	

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A
C. P-1 ITEM NOMENCLATURE										
M16 RIFLE (G14900)										
1. Rifle (Includes Slings and Magazines)										
FY 96	FN Mfg. Co., Inc., Columbia, SC	C/FFP M-5(1)	ACALA	Aug-96	Jan-97	31056	398	Yes	No	
FY97	FN Mfg. Co., Inc., Columbia, SC	C/FFP M-5(2)	ACALA	Nov-96	Dec-98	10320	398	Yes	No	
	FN Mfg. Co., Inc., Columbia, SC	Option	ACALA	Nov-96	Jul-99	1548	398	Yes	No	
	TBS	C/FFP	ACALA	Jul-97	Nov-97	3715	398	Yes	No	
FY 98	FN Mfg. Co., Inc., Columbia, SC	C/FFP M-5(3)	ACALA	Jan-98	Aug-99	11297	398	Yes	No	
FY 99	FN Mfg. Co., Inc., Columbia, SC	C/FFP M-5(4)	ACALA	Jan-99	Apr-00	21077	398	Yes	No	
REMARKS:										









BUDGET ITEM JUSTIFICATION SHEET											DATE
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Weapons and Other Combat Vehicles		5.56 CARBINE M4 (G14904)									
	Prior Years	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Complete	Total Program
QUANTITY	57474	9785	10603	7484	15352	8477	8016			2751	119942
COST (in millions)	31.8	6.3	6.5	5.1	9.6	5.6	5.6	0.0	0.0	1.9	72.4
Initial Spares (in millions)											
Total (in millions)	31.8	6.3	6.5	5.1	9.6	5.6	5.6				72.4
Unit Cost (in millions)	0.0	0.0	0.0	0.0	0.0	0.0	0.0				0.0
<p><b>DESCRIPTION:</b> The M4 Carbine is a 5.56mm gas-operated, air-cooled, magazine-fed, selective-rate, shoulder-fired weapon. It is fed by a 30-round magazine and will replace all M3A1 WWII era .45 cal Submachine guns, and selective M16 series rifles and M9 pistols. It provides the individual soldier operating in close quarters the capability to engage targets at extended ranges with accurate lethal fire. Although more compact and featuring a collapsible stock, it achieves over 85% commonality with the M16A2 rifle. The effective range is 500 meters.</p> <p><b>JUSTIFICATION:</b> The M4 Carbine will provide soldiers with a compact, light-weight weapon that can provide better self protection and additional firepower in close quarters. The FY98/99 program will allow for the uninterrupted fielding of the M4 Carbine to Army units. Procurement is necessary to achieve the Army Acquisition Objective (AAO) for the M4 Carbine.</p>											

WTCV Cost Analysis			A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles				B. WEAPON 5.56 CARBINE M4 (G14904)				C. MANUFACTURER NAME TBS		D. DATE February 1997	
WTCV Cost Elements			FY 96		FY 97		FY 98		FY 99					
ID	CD		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
1. Hardware M4 Carbine w/Sling Magazine & Blank Firing Attachment	A		5161	9785	1	5902	10603	1	4166	7484	1	8545	15352	1
2. Engineering Support - In House Support			400						425			375		
3. Engineering Change Proposals (ECP's)			59			46			105			92		
4. Quality Assurance (ARDEC)			75			75			75			75		
5. ILS			65						65			65		
6. Engineering Studies			220											
7. Comparison Test (TECOM)						175								
8. Fielding			312			348			253			416		
TOTAL			6292			6546			5089			9568		

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY Each	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A
C. P-1 ITEM NOMENCLATURE 5.56 CARBINE M4 (G14904)										
Hardware										
FY 96	Colt's Mfg Co., Inc., Hartford, CT	SS/FFP	ACALA	Sep-96	Mar-98	9785	1	Yes	No	
FY 97	TBS	C/FFP M-4(1)	ACALA	Jun-97	Nov-98	10603	1	Yes	No	
FY 98	TBS	C/FFP M-4(2)	ACALA	Jan-98	Aug-99	7484	1	Yes	No	
FY 99	TBS	C/FFP M-4(3)	ACALA	Jan-99	Feb-00	15352	1	Yes	No	
REMARKS:										







BUDGET ITEM JUSTIFICATION SHEET									
APPROPRIATION / BUDGET ACTIVITY			DATE			February 1997			
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles			P-1 ITEM NOMENCLATURE			M4 CARBINE MODS (GB3007)			
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	
QUANTITY	0	0	0	0	0	0	0	0	
COST (in millions)	0.9	2.1	2.2	5.3	5.6	0.0	0.0	0.0	

**DESCRIPTION:** The M4 Carbine Modification Program provides a close combat optic, a modular weapon suite and an improved buttstock for the M4 Carbine and also provides the capability for firing the M203 Grenade Launcher (GL) with the M4 Carbine.

**JUSTIFICATION:** The close combat optic allows the soldier to fire a weapon with both eyes open allowing greater awareness of events happening in close proximity and improves hit probability in daylight, low light level, wet weather and other adverse conditions. The modular weapon system is a key component of Land Warrior Lethality and allows the combat commander to custom configure weapons based upon the mission . The improved buttstock provides the rifleman an ergonomically optimized buttstock for the M4 Carbine.





MODIFICATION INSTALLATION SUMMARY									
									Date
									February 1997
(TOA, Dollars in Millions)									
System/Modification	DY FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Set for modification									
M4 CARBINE MODS									
GB3007									
Close Combat Optics (M4 Carbine)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M203 for M4 Carbine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Modular Weapon System (M4 Carbine)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M4 Improved Buttstock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Close Combat Optics (M4 Carbine) TBD1	
MODELS OF SYSTEMS AFFECTED:		M4 Carbine, XM68 Sight Reflex, XM195 Sight Mount	
DESCRIPTION / JUSTIFICATION:		<p>The XM68 Sight will be installed on the M4 Carbine with XM195 Mount. The close combat optic allows the soldier to fire a weapon with both eyes open allowing greater awareness of events happening in close proximity. The close combat optic gives the soldier greater hit probability in daylight, low light level, wet weather and other adverse conditions.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Development/Operational Test			1/2Q96
Type Classification			4Q96
Production Contract Award			4Q96
First Production Hardware Delivered			1Q97
First Unit Equipped		3Q97	

INDIVIDUAL MODIFICATION																				
Close Combat Optics (M4 Carbine) TBD1																				
FINANCIAL PLAN: (\$ in Millions)																				
MODIFICATION TITLE (Cont):	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		1.469																		1.469
PROCUREMENT																				
Quantity	3020		4744				8730		19636									10133	49547	
Installation Kits					3284															
Installation Kits Nonrecurring Equipment		0.755		1.186		0.903		2.401		5.400								2.800		13.445
Equipment Nonrecurring																				
Engineering Support		0.075		0.140		0.139		0.138		0.115								0.110		0.717
Testing		0.050		0.050		0.050		0.050		0.050								0.050		0.300
Integrated Logistical Support		0.010		0.020		0.020		0.020		0.020								0.020		0.110
Fielding		0.010		0.020		0.020		0.020		0.020								0.020		0.110
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits			3020																3020	
FY 1997 Eqpt -- Kits			752																4744	
FY 1998 Eqpt -- Kits					3992														3284	
FY 1999 Eqpt -- Kits					3284														8730	
FY 2000 Eqpt -- kits							8730		19636										19636	
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost			3772		7276		8730		19636									10133	49547	
Total Procurement Cost		0.900		1.416		1.132		2.629		5.605								3.000		14.682
METHOD OF IMPLEMENTATION: Unit Application																				
Contract Dates: Aug-96																				
Delivery Date: Dec-96																				
ADMINISTRATIVE LEADTIME: 1 Months																				
PRODUCTION LEADTIME: 5 Months																				
FY 1999: FY 1999:																				
FY 1998: FY 1999:																				

Installation Schedule: Close Combat Optics (M4 Carbine) TBD1															
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997			
& Prior	1	2	3	4	1	2	3	4	1	2	3	4			
Inputs															
FY 1996 & Prior															
FY 1997															
FY 1998															
FY 1999															
Outputs															
FY 1996 & Prior															
FY 1997															
FY 1998															
FY 1999															
FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		Total			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
Outputs															
FY 2000															
FY 2001															
FY 2002															
FY 2003															
Remarks: The installation schedule is not required for this modification.															

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		M203 for M4 Carbine TBD2	
MODELS OF SYSTEMS AFFECTED:		M4 Carbine, M4A1	
DESCRIPTION / JUSTIFICATION:			
The Army units assigned the M4 Carbine will obtain the capability to fire the M203 Grenade Launcher (GL) with the M4 Carbine.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
		PLANNED	ACCOMPLISHED
Developmental/Operational Tests			1Q97
Type Classification/Milestone III	2Q97		
Production Contract Award	3Q97		
First Production Hardware Delivered	4Q97		
First Unit Equipped	4Q97		

INDIVIDUAL MODIFICATION															Date		February 1997				
MODIFICATION TITLE (Cont):															M203 for M4 Carbine TBD2						
FINANCIAL PLAN: (\$ in Millions)																					
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E		0.631																			0.631
PROCUREMENT																					
Quantity																					
Installation Kits			1942																	1942	
Installation Kits Nonrecurring Equipment				0.160																	0.160
Equipment Nonrecurring Engineering Support				0.070																	0.070
Testing																					
Integrated Logistical Support				0.040																	0.040
Fielding				0.030																	0.030
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt -- Kits																					
FY 1997 Eqpt -- Kits			1500																		
FY 1998 Eqpt -- Kits																					
FY 1999 Eqpt -- Kits																					
FY 2000 Eqpt -- kits																					
FY 2001 Eqpt -- kits																					
FY 2002 Eqpt -- kits																					
FY 2003 Eqpt -- kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost			1500																	1942	
Total Procurement Cost				0.300																	0.300

METHOD OF IMPLEMENTATION: Unit Application		ADMINISTRATIVE LEADTIME:		9 Months		PRODUCTION LEADTIME:		4 Months	
Contract Dates:		FY 1997: Apr-97		FY 1998: Jul-97		FY 1999:		FY 1999:	
Delivery Date:		FY 1997:		FY 1998:		FY 1999:		FY 1999:	

Installation Schedule: M203 for M4 Carbine TBD2												
FY 1996 & Prior		FY 1997		FY 1998		FY 1999		FY 2000		February 1997 FY 2001		
	1	2	3	4	1	2	3	4	1	2	3	4
Inputs												
FY 1996 & Prior												
FY 1997												
FY 1998												
FY 1999												
Outputs												
FY 1996 & Prior												
FY 1997												
FY 1998												
FY 1999												
FY 2000		FY 2001		FY 2002		FY 2003		FY 2004		FY 2005		
1	2	3	4	1	2	3	4	1	2	3	4	
Total												
Inputs												
FY 2000												
FY 2001												
FY 2002												
FY 2003												
Outputs												
FY 2000												
FY 2001												
FY 2002												
FY 2003												
Remarks:												
The Installation schedule is not required for this modification.												



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Modular Weapon System (M4 Carbine) TBD3	
MODELS OF SYSTEMS AFFECTED:		Carbine, 5.56 M4	
DESCRIPTION / JUSTIFICATION:		<p>The modular weapon is a no tool, field expedient applied system of mounting rails/methods to allow the custom configuration of M4 Carbines with ancillary items such as optics, night sights, IR laser pointers, the grenade launcher, back-up sights, etc., based upon mission requirements.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Developmental/Operational Tests			3/4Q95
Milestone III Production Decision		2Q97	
Production Contract Award		3Q97	
First Production Hardware Delivered		3Q98	
First Unit Equipped		4Q98	

INDIVIDUAL MODIFICATION																					
MODIFICATION TITLE (Cont):																					
Modular Weapon System (M4 Carbine) TBD3																					
FINANCIAL PLAN: (\$ in Millions)																					
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E		1.158																		1.158	
PROCUREMENT																					
Quantity			1000		953		3066												20000		
Installation Kits																					
Installation Kits Nonrecurring																					
Equipment				0.280		0.276		0.886											4.400	5.842	
Equipment Nonrecurring																					
Engineering Support				0.058		0.050		0.075											0.150	0.333	
Testing				0.020															0.020	0.020	
Integrated Logistical Support				0.015		0.011		0.030											0.025	0.081	
Fielding				0.025		0.033		0.098											0.280	0.436	
Other																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt -- Kits																					
FY 1997 Eqpt -- Kits					1000														1000		
FY 1998 Eqpt -- Kits					953														953		
FY 1999 Eqpt -- Kits							3066												3066		
FY 2000 Eqpt -- Kits																					
FY 2001 Eqpt -- Kits																					
FY 2002 Eqpt -- Kits																					
FY 2003 Eqpt -- Kits																					
(FY(TC) Eqpt (xx kits)																			14981		
Total Installation Cost					1953		3066												14981		
Total Procurement Cost				0.398		0.370		1.089											4.855	6.712	
METHOD OF IMPLEMENTATION: Unit Application																					
Contract Dates:		FY 1997:		May-97		FY 1998:		FY 1998:		6 Months		PRODUCTION LEADTIME:		FY 1999:		12 Months					
Delivery Date:		FY 1997:		Apr-98		FY 1998:		FY 1998:						FY 1999:							

Installation Schedule:    Modular Weapon System (M4 Carbine) TBD3													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Inputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Remarks:													
The Installation schedule is not required for this modification.													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	M4 Improved Buttstock TBD4		
MODELS OF SYSTEMS AFFECTED:	M4 Carbine, M4A1		
DESCRIPTION / JUSTIFICATION:			
<p>The M4 Improved Buttstock provides the rifleman with features for obtaining the proper shooting form; stock/shoulder weld and stock/cheek weld.</p> <p>This program provides the rifleman with an ergonomically optimized buttstock for the M4 Carbine.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Milestone III	3Q97		
Engineering Change Proposal	1Q98		
First Production Hardware Delivered	3Q98		
First Unit Equipped/Materiel Work Order	4Q98		

M4 Improved Buttstock TBD4

MODIFICATION TITLE (Cont):

FINANCIAL PLAN: (\$ In Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RD&E	0.377																			0.377
PROCUREMENT																				
Quantity					10,000		37,300												47,300	
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment					0.400		1.500												1.900	
Equipment Nonrecurring					0.150		0.100												0.250	
Engineering Support					0.100														0.100	
Testing																				
Integrated Logistical Support																				
Fielding																				
Other																				
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits																			10,000	
FY 1999 Eqpt -- Kits							37,300												37,300	
FY 2000 Eqpt -- kits																				
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost					10,000		37,300												47,300	
Total Procurement Cost					0.650		1.600												2.250	

METHOD OF IMPLEMENTATION: Unit Application

Contract Dates: FY 1997: FY 1997:

Delivery Date: FY 1997: FY 1997:

ADMINISTRATIVE LEADTIME:

FY 1998: FY 1998:

FY 1998: FY 1998:

1 Months

Oct-97

Apr-98

PRODUCTION LEADTIME:

FY 1999: FY 1999:

FY 1999: FY 1999:

7 Months

Installation Schedule: M4 Improved Buttstock TBD4													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior	1	2	3	4	1	2	3	4	1	2	3	4	1
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
FY 2000													
1	2	3	4	1	2	3	4	1	2	3	4	1	2
FY 2001													
FY 2002													
FY 2003													
FY 2004													
FY 2005													
Total													
Inputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Remarks:													
The installation schedule is not required for this modification.													

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles				P-1 ITEM NOMENCLATURE						
				MEDIUM MACHINE GUNS (MODS) (GZ1300)						
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY	0	0	0	0	0	0	0	0		
COST (In millions)	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
<p><b>DESCRIPTION:</b> The M240B, 7.62mm Machine Gun is the ground mounted version of the basic M240 Armor Machine Gun. An initial procurement will utilize government owned M240 assets converted to M240B ground mounted machine guns. The conversion requires the installation of a buttstock, front and rear sights, bipod legs, a barrel change handle, heatshield, replacement of the top feed cover, the pistol grip with trigger mechanism and charging handle. Also minor machining of the operating rod is required. Extensive operational and technical testing has demonstrated exceptionally high reliability for this weapon system.</p> <p><b>JUSTIFICATION:</b> The US Army established a requirement for an 7.62mm medium machine gun with improved reliability. Following extensive competitive technical and operational testing of the M240B and an improved M60 model machine gun, the Army selected the M240B to satisfy its 7.62mm medium gun requirement.</p>										





MODIFICATION INSTALLATION SUMMARY									
									Date
									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
<i>No P3a Set for modification</i>									
MEDIUM MACHINE GUNS (MODS)									
GZ1300									
Medium Machine Gun Upgrade Kits									
Totals									

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:	Medium Machine Gun Upgrade Kits TBD1		
MODELS OF SYSTEMS AFFECTED:	M240, 7.62mm Machine Gun M122 Tripod		
DESCRIPTION / JUSTIFICATION:	<p>DESCRIPTION: The M240B, 7.62mm Machine Gun is the ground mounted version of the basic M240 Armor Machine Gun. An initial procurement will utilize government-owned M240 assets converted to ground mounted machine guns. The conversion requires the installation of a buttstock, front and rear sights, bipod legs, a barrel change handle, heatshield, replacement of the top feed cover, the pistol grip with trigger mechanism and charging handle. Also minor machining of the operating rod is required. Extensive operational and technical testing has demonstrated exceptionally high reliability for this weapon system.</p> <p>JUSTIFICATION: The US Army established a requirement for an 7.62mm medium machine gun with improved reliability. Following extensive competitive technical and operational testing of the M240B and an improved M60 model machine gun, the Army selected the M240B to satisfy its 7.62mm medium gun requirement.</p>		
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
Development Test and Evaluation		4Q95	
Initial Operational Test and Evaluation		3Q95	
Type Classification		3Q96	
Production Contract Award		3Q96	
First Production Hardware Delivered	2Q97		
First Unit Equipped	4Q97		

MODIFICATION TITLE (Cont):		INDIVIDUAL MODIFICATION												Date		February 1997	
Medium Machine Gun Upgrade Kits TBD1																	
FINANCIAL PLAN: (\$ In Millions)																	
RDT&E		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL						
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$		
1200	1.902											1200			1.902		
PROCUREMENT																	
Kit Quantity																	
Installation Kits																	
Installation Kits Nonrecurring																	
Equipment																	
Equipment Nonrecurring																	
Engineering Support																	
Testing																	
Integrated Logistic Support																	
Fielding																	
Other - Engineering Studies																	
Interim Contractor Support																	
Installation of Hardware																	
FY 1996 & Prior Eqpt -- Kits																	
FY 1997 Eqpt -- Kits																	
FY 1998 Eqpt -- Kits																	
FY 1999 Eqpt -- Kits																	
FY 2000 Eqpt -- Kits																	
FY 2001 Eqpt -- Kits																	
FY 2002 Eqpt -- Kits																	
FY 2003 Eqpt -- Kits																	
(FY(TC) Eqpt (xx kits)																	
Total Installation Cost		1200										1200					
Total Procurement Cost		6.292													6.292		
METHOD OF IMPLEMENTATION: Contractor																	
Contract Dates: May-96																	
Delivery Date: Jan-97																	
FY 1997:																	
FY 1998:																	
FY 1999:																	
ADMINISTRATIVE LEADTIME:																	
6 Months																	
PRODUCTION LEADTIME:																	
9 Months																	
FY 1999:																	
FY 1999:																	

Installation Schedule: Medium Machine Gun Upgrade Kits TBD1													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior													
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior			600	600									
FY 1997													
FY 1998													
FY 1999													
											</		



BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Weapons and Other Combat Vehicles		M119 MODIFICATIONS (GC0401)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0			
COST (in millions)	0.0	0.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	
<b>DESCRIPTION:</b> Light Artillery System Improvement Plan (LASIP) for the 105mm, M119A1 Light, Towed Howitzer											
<b>JUSTIFICATION:</b> The 105mm M119A1 Light, Towed Howitzer was selected as the weapon of choice for the light forces because it was a nondevelopmental item (NDI) with growth potential. Now that 413 M119A1 howitzers have been fielded, it is time to realize that growth potential. The Light Artillery System Improvement Plan (LASIP) initiates this process by correcting known deficiencies, improving reliability, availability and maintainability (RAM), and providing solutions to requests for minor operational enhancements. The LASIP was developed by the M119A1 Howitzer Improvement Team (HIT), chartered specifically to respond to improvements requested by field artillery units, the U.S. Army Field Artillery School (USAFAS) and the U.S. Army Training and Doctrine Command (TRADOC).											



MODIFICATION INSTALLATION SUMMARY									
(TOA, Dollars in Millions)									Date
									February 1997
System/Modification	DY FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Set for modification									
M119 MODIFICATIONS									
GC0401									
Block 1 Upgrade	0.0	0.0	0.0	0.7	0.2	0.2	0.0	0.0	1.1
Block 2 Upgrade	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.7
Totals	0.0	0.0	0.0	0.7	0.2	0.2	0.4	0.3	1.9



INDIVIDUAL MODIFICATION		Date	February 1987
MODIFICATION TITLE:		Block 1 Upgrade TBD1	
MODELS OF SYSTEMS AFFECTED:	Howitzer, Light Towed, 105mm M119A1 (Mod)		
DESCRIPTION / JUSTIFICATION:			
<p>Retrofit Low Temp Recuperator 1-90-05-7875; The seals function only to temperature of -25F not the -50F. Improve Indirect Fire control; Upgrade M187 1-94-05-7911; The M119A1 indirect fire control system fails approximately 14 times more often than other hardware fire control systems when Operational Mode Profile (OMP) is factored in. Upgrade Cam Follower Arm; Preventing damage to the cam follower will improve reliability, availability and maintainability while reducing Operating and Support costs (OSCR). Improve Firing Stays; The design and mounting clearances for the clevis pins on the rear firing stays of the firing platform make it very difficult to attach the stays to the trail during emplacement. Improve Traveling Stays; The design and mounting clearances for the clevis pins on the traveling stays make it very difficult to attach the stays to the trail when preparing for towing Redesign Rammer/Extractor Tool; The rammer/extractor tool currently issued was "borrowed" from the M102 Howitzer which required the base of the primed cartridge be forcefully struck by a hard rubber plunger.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
Validate Materiel change (MC)	PLANNED	ACCOMPLISHED	3Q90
Critical Design Review:			3Q91
Complete testing of Prototype			3Q92
Release Technical Data Package (TDP)			1Q93
Award Contract for Modification (MOD) Kits	2Q98		
Deliver First Mod Kit	1Q99		
First Unit Equipped (FUE)	2Q99		
Deliver Last Mod Kit	2Q01		
Last Unit Equipped	3Q01		

INDIVIDUAL MODIFICATION

FINANCIAL PLAN: (\$ in Millions)

	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																				
PROCUREMENT																				
Kit Quantity					140		140		145										425	
Installation Kits																				
Installation Kits Nonrecurring																				
Equipment					4.2	3.4				3.9										11.5
Equipment Nonrecurring					0.0	0.0				0.0										0.0
Engineering Change Orders					0.2	0.1				0.0										0.3
Engineer Support					0.3	0.5				0.5										1.3
Other					0.2	0.3				0.3										0.8
Testing					0.0	0.0				0.0										0.1
Fielding					0.0	0.0				0.0										0.0
Interim Contractor Support																				
Installation of Hardware																				
FY 1996 & Prior Eqpt -- Kits																				
FY 1997 Eqpt -- Kits																				
FY 1998 Eqpt -- Kits							140	0.7											140	0.7
FY 1999 Eqpt -- Kits							22	0.0	118	0.2									140	0.2
FY 2000 Eqpt -- Kits									44	0.1	101	0.2							145	0.2
FY 2001 Eqpt -- kits																				
FY 2002 Eqpt -- kits																				
FY 2003 Eqpt -- kits																				
(FY(TC) Eqpt (xx kits)																				
Total Installation Cost							162	0.7	162	0.2	101	0.2							425	1.1
Total Procurement Cost						5.0		5.0		5.0		0.2								15.1

METHOD OF IMPLEMENTATION: Unit Application  
 Contract Dates: FY 1997: Multiple  
 Delivery Date: FY 1997: Multiple

ADMINISTRATIVE LEADTIME:  
 FY 1998: Multiple  
 FY 1998: Multiple

PRODUCTION LEADTIME: 6 Months  
 FY 1999: Multiple  
 FY 1999: Multiple



INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Block 2 Upgrade TBD2			
MODELS OF SYSTEMS AFFECTED:	Howitzer Light Towed, 105mm, M119A1 (Mod)		
DESCRIPTION / JUSTIFICATION:			
<p>Improve Adjustable connecting Rod; The current design suffers from water entrapment which leads to corrosion and binding of the spring. Modify Brake system; The system required a special production run by the British manufacturer. The brakes also use asbestos brake linings and require a collar to lock out the lunette when backing up. Upgrade Elevating Handwheel; It is the limiting factor in the system's departure angle during cross country movement and is highly susceptible to damage during tactical operations. Modify firing Platform; The position makes deployment of the howitzer difficult, as the firing platform must be disengaged from its stowage brackets, lifted manually from the trail, carried completely clear of the trail and placed on the ground before the howitzer can be rolled into its firing position. Add Trail Lifting Handles; Due to limited clearance, the user has requested trail lifting handles to design. Improve Direct Fire Scope; Improving the direct fire scope will provide night capability. Improved accuracy and internal boresighting.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Validate Materiel Change (MC)			3Q94
Critical Design Review:		1Q98	
Complete testing of Prototype		2Q98	
Release Technical Data Package (TDP)		4Q98	
Award Contract for Modification (MOD) Kits		1Q99	
Deliver First Mod Kit		1Q02	
First Unit Equipped (FUE)		2Q02	
Deliver Last Mod Kit		2Q04	
Last Unit Equipped		3Q04	

INDIVIDUAL MODIFICATION															Date		February 1997				
MODIFICATION TITLE (Cont):															Block 2 Upgrade TBD2						
FINANCIAL PLAN: (\$ in Millions)																					
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL		
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	
RDT&E																					
PROCUREMENT																					
Kit Quantity																					
Installation Kits																					
Installation Kits Nonrecurring Equipment																					
Equipment Nonrecurring																					
Engineering Change Orders																					
Engineering Support																					
Other																					
Testing																					
Fielding																					
Interim Contractor Support																					
Installation of Hardware																					
FY 1996 & Prior Eqpt -- Kits																					
FY 1997 Eqpt -- Kits																					
FY 1998 Eqpt -- Kits																					
FY 1999 Eqpt -- Kits																					
FY 2000 Eqpt -- kits																					
FY 2001 Eqpt -- kits																					
FY 2002 Eqpt -- kits																					
FY 2003 Eqpt -- kits																					
(FY(TC) Eqpt (xx kits)																					
Total Installation Cost																					
Total Procurement Cost																					
METHOD OF IMPLEMENTATION: Unit Application																					
Contract Dates: FY 1997: Multiple FY 1998: Multiple FY 1999: Multiple																					
Delivery Date: FY 1997: Multiple FY 1998: Multiple FY 1999: Multiple																					
PRODUCTION LEADTIME: 6 Months																					



BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles		M16 RIFLE MODS (GZ2800)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0	0		
COST (in millions)	2.8	5.5	7.6	7.1	0.0	0.0	0.0	0.0	0.0		
<p><b>DESCRIPTION:</b> The M16 family of rifles is a gas operated, magazine fed, selective rate and shoulder fired weapon. It is fed by a 30 round aluminum magazine. The M16 Rifle Modifications Program provides a close combat optic and a modular weapon system suite for the M16A2 Rifle. The modular weapon allows the custom configuration of the M16 rifles with accessories and smaller items. i.e. optics, night sights, laser pointers, based on mission requirements.</p> <p><b>JUSTIFICATION:</b> The close combat optic allows the soldier to fire a weapon with both eyes open allowing greater awareness of events happening in close proximity and improves hit probability in daylight, low light level, wet weather and other adverse conditions. The modular weapon system is a key component of Land Warrior Lethality and allows the combat commander to custom configure weapons based upon the mission.</p>											

BUDGET ITEM JUSTIFICATION SHEET		DATE
APPROPRIATION / BUDGET ACTIVITY PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles		February 1997
P-1 ITEM NOMENCLATURE		M16 RIFLE MODS (GZ2800)

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MODIFICATION INSTALLATION SUMMARY									
									Date February 1997
(TOA, Dollars in Millions)									
System/Modification	DY FY 1986	FY 1987	FY 1988	FY 1989	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Set for modification	*								
M16 RIFLE MODS									
GZ2800	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Close Combat Optics M16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Modular Weapon System	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
M16A1 to M16A2 Conversion									
Totals	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		Close Combat Optics M16 TBD1	
MODELS OF SYSTEMS AFFECTED:		M16A2 Rifle, XM68 Sight Reflex, XM196 Sight Mount	
DESCRIPTION / JUSTIFICATION:			
<p>The XM68 Sight will be installed on the M16A2 Rifle with the XM196 Mount.</p> <p>The Close Combat Optic allows the soldier to fire his weapon with both eyes open allowing greater awareness of events happening in close proximity to the soldier and improves hit probability in daylight, low light level, wet weather and other adverse conditions.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
		PLANNED	ACCOMPLISHED
Development/Operational Test			1/2Q96
Type Classification			4Q96
Production Contract Award			4Q96
First Production Hardware Delivered			1Q97
First Unit Equipped		3Q97	

INDIVIDUAL MODIFICATION														
Close Combat Optics M16 TBD1														
MODIFICATION TITLE (Cont):														
FINANCIAL PLAN: (\$ in Millions)														
	FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E		1.469												
PROCUREMENT														
Quantity	8,964		7,264		11,520		7,705						35,453	
Installation Kits														
Installation Kits Nonrecurring														
Equipment		2.241		1.816		3.168		2.119						9.344
Equipment Nonrecurring														
Engineering Change Orders														
Engineering Support		0.300		0.140		0.132		0.139						0.711
Testing		0.150		0.050		0.050		0.050						0.300
Integrated Logistical Support		0.030		0.020		0.020		0.020						0.090
Fielding		0.030		0.020		0.020		0.020						0.090
Interim Contractor Support														
Installation of Hardware														
FY 1996 & Prior Eqpt -- Kits			8,964											8,964
FY 1997 Eqpt -- Kits			7,264											7,264
FY 1998 Eqpt -- Kits					11,520		7,705							11,520
FY 1999 Eqpt -- Kits														7,705
FY 2000 Eqpt -- kits														
FY 2001 Eqpt -- kits														
FY 2002 Eqpt -- kits														
FY 2003 Eqpt -- kits														
(FY(TC) Eqpt (xx kits)														
Total Installation Cost			16,228		11,520		7,705							35,453
Total Procurement Cost		2.751		2.046		3.390		2.348						10.535
METHOD OF IMPLEMENTATION: Unit Application														
Contract Dates:			Aug-96			FY 1997:			FY 1998:			FY 1999:		
Delivery Date:			Dec-96			FY 1997:			FY 1998:			FY 1999:		
						1			5			5		
						Months			Months			Months		
						ADMINISTRATIVE LEADTIME:			PRODUCTION LEADTIME:					

Installation Schedule: Close Combat Optics M16 TBD1													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
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FY 2627													
FY 2628													
FY 2629													
FY													

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE: Modular Weapon System TBD2			
MODELS OF SYSTEMS AFFECTED:		Rifle, 5.56mm M16A2	
DESCRIPTION / JUSTIFICATION: The modular weapon is a system of mounting rails/methods that allows the custom configuration of M16 Rifles with accessories and ancillary items such as optics, night sights, IR laser pointer, the grenade launcher, back-up sights, etc., based upon mission requirements in the field, without tools.			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Developmental/Operational Tests			3/4Q95
Milestone III Production Decision		2Q97	
Production Contract Award		3Q97	
First Production Hardware Delivered		3Q98	
First Unit Equipped		4Q98	





INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		M16A1 to M16A2 Conversion TBD3	
MODELS OF SYSTEMS AFFECTED:		Rifle 5.56mm M16A1 to M16A's	
DESCRIPTION / JUSTIFICATION:		<p>This conversion of M16A1 Rifles to the M16A2 version will: accelerate fielding of the M16A2 Rifle, serve as a second source of M16A2 Rifles to supplement receipts from new rifle contractors, reduce storage costs of M16A1 Rifles displaced by newly fielded M16A2s and reduce the need for retaining two ammunition types in the field for two rifle types. FY95 funds are for installation costs. Modification kits are being delivered from prior year contracts.</p>	
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		PLANNED	ACCOMPLISHED
Development/Operational Test		N/A	
Type Classification		N/A	
First Production Hardware Delivered			2Q92
Last Production Hardware Delivered		2Q97	





Installation Schedule: M16A1 to M16A2 Conversion TBD3													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior		109300	4000	2000									
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior		109300	4000	2000									
FY 1997													
FY 1998													
FY 1999													
Inputs													
FY 2000		1	2	3	4	1	2	3	4	1	2	3	4
FY 2001													
FY 2002													
FY 2003													
Outputs													
FY 2000													
FY 2001													
FY 2002													
FY 2003													
Remarks:													

BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Weapons and Other Combat Vehicles		MODIFICATIONS LESS THAN \$2.0M (WOCV-WTCV (GC0925))									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0		0	
COST (in millions)	1.3	1.4	1.4	1.4	1.3	1.3	1.4	1.4		1.4	
<p><b>DESCRIPTION:</b> Provides for modification of Weapons and Other Combat Vehicles with a cost less than \$2.0 Million.</p> <p><b>JUSTIFICATION:</b> Funds will provide machine gun optic sights for the 5.56mm M249 Light Machine Gun and 7.62mm Medium Machine Guns. The optic sight will allow the soldier to identify and engage targets more effectively than the existing iron sighting system.</p>											

BUDGET ITEM JUSTIFICATION SHEET		DATE
		February 1997

## P-1 ITEM NOMENCLATURE

MODIFICATIONS LESS THAN \$2.0M (WOCV-WTCV (GC0925))

Item No. 38 Page 2 of 9

MODIFICATION INSTALLATION SUMMARY									
									Date
									February 1997
(TOA, Dollars in Millions)									
System/Modification	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
No P3a Set for modification									
MODIFICATIONS LESS THAN \$2.0M (WOCV-WTCV)									
GC0925									
M198 Howitzer System Improvement	2.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Machine Gun Optics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	2.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	3.0

INDIVIDUAL MODIFICATION		Date	February 1997
MODIFICATION TITLE:		M198 Howitzer System Improvement TBD1	
MODELS OF SYSTEMS AFFECTED:		M198 Howitzer, Medium Towed	
DESCRIPTION / JUSTIFICATION:			
<p>The purpose of the Materiel Change (MC) is to improve the reliability of the M198 System, improve the brake system, reduce operator fatigue, improve the retention of hardware and improve equilibrator adjustment. The areas of improvement were a result of M198 fielded system review. Improvements in ram, handling maneuverability, durability of parts, a reduction in operator fatigue and increased users satisfaction is expected.</p>			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:			
	PLANNED	ACCOMPLISHED	
MC Project Initiated			2Q86
Test Initiated			1Q88
Independent Evaluation Completed			1Q88
IPR/Production Decision			3Q88
Production Contract Awarded			1Q89
First Production Hardware Delivered			3Q91
MFA/MWOFN Negotiated			3Q91
First Kit Applied			3Q91
Last Kit Applied			
Collective Evaluation Completed			
			1Q98
			4Q98

INDIVIDUAL MODIFICATION																			
M198 Howitzer System Improvement TBD1																			
MODIFICATION TITLE (Cont):																			
FINANCIAL PLAN: (\$ in Millions)																			
FY 1996 and Prior		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		FY 2002		FY 2003		TC		TOTAL	
Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$
RDT&E																			
PROCUREMENT																			
739																		739	
Kit Quantity																			
Installation Kits																			
Installation Kits Nonrecurring Equipment																			
9.755																			9.755
Equipment Nonrecurring																			
1.616																			1.616
Engineering Change Orders																			
Data																			
0.071																			0.071
Training Equipment																			
Support Equipment																			
Fielding																			
Interim Contractor Support																			
Installation of Hardware																			
673		2.388	66	0.627														66	0.627
FY 1996 & Prior Eqpt -- Kits																			
FY 1997 Eqpt -- Kits																			
FY 1998 Eqpt -- Kits																			
FY 1999 Eqpt -- Kits																			
FY 2000 Eqpt -- Kits																			
FY 2001 Eqpt -- Kits																			
FY 2002 Eqpt -- Kits																			
FY 2003 Eqpt -- Kits																			
(FY(TC) Eqpt (xx kits)																			
673		2.388	66	0.627														66	0.627
Total Installation Cost																			
13.830																			
Total Procurement Cost																			
																			14.457

METHOD OF IMPLEMENTATION: Depot				ADMINISTRATIVE LEADTIME:				PRODUCTION LEADTIME:			
Contract Dates:				FY 1997:				FY 1998:			
Delivery Date:				FY 1997:				FY 1998:			
				Months				Months			
				FY 1997:				FY 1998:			
				FY 1997:				FY 1998:			
				Months				Months			
				FY 1997:				FY 1998:			
				FY 1997:				FY 1998:			

Installation Schedule: M198 Howitzer System Improvement TBD1													
FY 1996		FY 1997		FY 1998		FY 1999		FY 2000		FY 2001		February 1997	
& Prior		1	2	3	4	1	2	3	4	1	2	3	4
Inputs													
FY 1996 & Prior	673	17	17	18	14								
FY 1997													
FY 1998													
FY 1999													
Outputs													
FY 1996 & Prior	673	4	10	17	18	17							
FY 1997													
FY 1998													
FY 1999													
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INDIVIDUAL MODIFICATION		Date	February 1997																		
MODIFICATION TITLE:		Machine Gun Optics TBD2																			
MODELS OF SYSTEMS AFFECTED:		M249 Squad Automatic Weapon; M60 Machine Guns																			
DESCRIPTION / JUSTIFICATION:		<p>The Machine Gun Optic Program provides an optic (telescopic) sight for the 5.56mm M249 Light Machine Gun and 7.62mm Medium Machine Guns. The optic sight will allow the soldier to identify and engage targets more effectively than the existing iron sighting system.</p>																			
DEVELOPMENT STATUS / MAJOR DEVELOPMENT MILESTONES:		<table border="0"> <thead> <tr> <th></th> <th>PLANNED</th> <th>ACCOMPLISHED</th> </tr> </thead> <tbody> <tr> <td>Development/Operational Tests</td> <td>2Q97</td> <td></td> </tr> <tr> <td>Type Classification</td> <td>4Q97</td> <td></td> </tr> <tr> <td>Production Contract Award</td> <td>4Q97</td> <td></td> </tr> <tr> <td>First Production Hardware Delivered</td> <td>1Q98</td> <td></td> </tr> <tr> <td>First Unit Equipped</td> <td>2Q98</td> <td></td> </tr> </tbody> </table>		PLANNED	ACCOMPLISHED	Development/Operational Tests	2Q97		Type Classification	4Q97		Production Contract Award	4Q97		First Production Hardware Delivered	1Q98		First Unit Equipped	2Q98		
	PLANNED	ACCOMPLISHED																			
Development/Operational Tests	2Q97																				
Type Classification	4Q97																				
Production Contract Award	4Q97																				
First Production Hardware Delivered	1Q98																				
First Unit Equipped	2Q98																				

INDIVIDUAL MODIFICATION														
Machine Gun Optics TBD2														
MODIFICATION TITLE (Cont):														
FINANCIAL PLAN: (\$ in Millions)														
	FY 1996 and Prior	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TC	TOTAL				
	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
RDT&E	2.758													2.758
PROCUREMENT														
Quantity		876	1807	1790	1579	1563								11000
Installation Kits														
Installation Kits Nonrecurring														
Equipment				1.163	1.027	1.017								
Equipment Nonrecurring														
Engineering Support				0.143	0.143	0.144								7.715
Testing				0.050	0.050	0.050								0.250
Integrated Logistical Support				0.020	0.020	0.020								0.737
Fielding				0.017	0.020	0.020								0.295
Other				0.020	0.020	0.020								0.116
Interim Contractor Support														0.097
Installation of Hardware														
FY 1996 & Prior Eqpt -- Kits		876												
FY 1997 Eqpt -- Kits			1807											876
FY 1998 Eqpt -- Kits														1807
FY 1999 Eqpt -- Kits				1790										1790
FY 2000 Eqpt -- kits					1579									1579
FY 2001 Eqpt -- kits						1563								1563
FY 2002 Eqpt -- kits														
FY 2003 Eqpt -- kits														
(FY(TC) Eqpt (xx kits)														
Total Installation Cost		876	1807	1790	1579	1563								3385
Total Procurement Cost			0.800	1.406	1.395	1.260	1.251							11000
														9.210

METHOD OF IMPLEMENTATION: Unit Application	ADMINISTRATIVE LEADTIME:	1	Months	PRODUCTION LEADTIME:	4	Months
Contract Dates: FY 1997: Sep-97	FY 1998: Dec-97			FY 1999:		
Delivery Date: FY 1997:				FY 1999:		

Installation Schedule: Machine Gun Optics TBD2												
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	Date	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Total
<b>Inputs</b>												
FY 1996 & Prior	1	2	3	4	1	2	3	4	1	2	3	4
FY 1997												
FY 1998												
FY 1999												
<b>Outputs</b>												
FY 1996 & Prior												
FY 1997												
FY 1998												
FY 1999												
<b>Inputs</b>												
FY 2000	1	2	3	4	1	2	3	4	1	2	3	4
FY 2001												
FY 2002												
FY 2003												
<b>Outputs</b>												
FY 2000												
FY 2001												
FY 2002												
FY 2003												
<b>Remarks:</b>	An installation schedule is not required for this modification.											

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY										February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles										
P-1 ITEM NOMENCLATURE										
ITEMS LESS THAN \$2.0M (WOCV-WTCV) (GL3200)										
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
	0	0	0		0	0	0	0		0
COST (In millions)	1.1	1.8	1.2	1.2	1.3	1.3	1.4	1.4		1.4
<p><b>DESCRIPTION:</b> Provides for procurement and assembly of tool/shop sets, small arms, and gun mounts. The items are needed by maintenance personnel to maintain weapons and combat vehicles, and by Active Army, National Guard, Reserve and ROTC units to perform combat and training missions. The tool/shop equipment has multi-applications and is essential to all levels of weapon and combat vehicle maintenance.</p> <p><b>JUSTIFICATION:</b> Required to achieve and sustain required levels of readiness to units providing maintenance support to all small arms (M16,9mm Pistol, 7.62 Machine Gun, etc.), artillery (M102,M119,M198 Howitzers, etc.), air defense (Vulcan, PIVAD, etc.) special weapons, and fire control (Tanks, etc.) organizations. Small Arms Weapons and mounts are required to support AAO shortages, field replacements and training requirements.</p>										

WTCV Cost Analysis				A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles				B. WEAPON ITEMS LESS THAN \$2.0M (WOCV-WTCV) (GL3200)				C. MANUFACTURER NAME Various		D. DATE February 1997	
WTCV Cost Elements				FY 96		FY 97		FY 98		FY 99					
	ID	CD		TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000	TotalCost \$000	Qty Each	UnitCost \$000
1. Tool Set, Field ORD Supply or Depot CO	G422	A								45	5	9	40	4	10
2. Shot Gun, 12 Gage	G124	A		120	525		99	420		99	410		100	400	
3. Tool Set, Ammo DS/GS Ordnance Ammo	G419	A								92	4	23	72	3	24
4. Shop Equip, Small Arms Repair, Shelter Mtd	G337	A		107	4	27	404	11	37	444	12	37	456	12	38
5. Shop Equip, Artillery Maint, FM Set N	G348	A					76	5	15	76	5	15	80	5	16
6. Tool Set, Instrument and Fire Control, FM	G371	A		73	5	15	70	5	14	135	10	14	143	10	14
7. Shop Set, Small Arms, Field Maint, PCS Set D	G385	A		145	2	73	111	2	56	224	4	56	228	4	57
8. Tool Kit, Electronic Maint	F072	A								12	3	4	8	2	4
9. Tool Kit, Electronic Maint	F073	A								10	10	1	5	5	1
10. Shop Set, Small Arms FM, Basic	G723	A								78	6	13	70	5	14
11. MK 19 Trainer (Stand Alone)	PEND	A					1007	22	46						
12. XM144 Telescope		A		668											
TOTAL				1113			1767			1215			1202		

BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE								February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles		PRODUCTION BASE SUPPORT (WOCV-WTCV) (GC0050)								
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		
QUANTITY	0	0	0	0	0	0	0	0		
COST (In millions)	5.9	4.3	6.2	6.5	6.4	6.3	6.8	6.9		
<p><b>Description:</b> This program provides for Provision of Industrial Facilities (PIF). Funds are used to establish modernize, expand and replace facilities owned by the Army and provide Production Support and Equipment Replacement (PSR) and Modernization (MOD) to Government owned equipment used in production, production testing of Weapons and Tracked Combat Vehicles. Also provides funding for the Layaway of Industrial Facilities (LIF) for preservation of equipment and portions of plants which are no longer required for active production.</p> <p><b>Justification:</b> The FY98 and FY99 request includes essential funding for replacement of equipment &amp; instrumentation in production test facilities at Aberdeen, Yuma Proving Grounds, and White Sands Missile Range (WSMR). Funding also supports layaway of industrial equipment which is excess to production requirements at Rock Island and Watervliet Arsenals.</p>										
		FY 1996	FY 1997	FY 1998	FY 1999					
PIF		3.215	1.478	3.473	3.594					
LIF		<u>2.640</u>	<u>2.833</u>	<u>2.722</u>	<u>2.946</u>					
TOTALS		5.855	4.311	6.195	6.540					

Production Support and Facilities Projects			DATE			
APPROPRIATION / BUDGET ACTIVITY			P-1 ITEM NOMENCLATURE			
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles			PRODUCTION BASE SUPPORT (WOCV-WTCV) (GC0050)			
PROJECT NO.	TYPE	NAME /LOCATION	FY 1996	FY 1997	FY 1998	FY 1999
09X5263	MOD	Combat Systems Testing Activity (CSTA) Aberdeen Proving Ground	1.360	0.600	1.470	1.613
Provides funds to replace, modernize and upgrade equipment and instrumentation used in production testing of WTCV, such as the M981 Fire Support Vehicle, M1 Tank, M2/M3 Bradley Fighting Vehicle, 105MM and 120MM cannons. Upgrading will be performed on automotive performance Test Equipment, vehicle dynamics, high speed Imaging, Interior exterior ballistics support instrumentation, and toxic fumes Instrumentation.						
09X5268	MOD	Yuma Proving Grounds	1.214	0.600	1.464	1.450
Provides funds to replace, modernize and upgrade equipment and instrumentation used in production testing of WTCV. The funding will also provide telemetry data collection Interfaces, Weapons firing instrumentation, and video instrumentation enhancements.						
09X5269	PSR	White Sands Missile Range	0.641	0.278	0.539	0.531
Provides funds to replace, modernize and upgrade the test and evaluation mission for production testing at WSMR. The equipment/instrumentation includes: the Linear Accelerator (LINAC) which simulates high-intensity gamma spikes of a nuclear weapon detonation, equipment used to support electromagnetic radiation effects testing, and equipment to monitor the air activity at facilities where material is against a radiation source.						

Production Support and Facilities Projects			
APPROPRIATION / BUDGET ACTIVITY		DATE	February 1997
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles		P-1 ITEM NOMENCLATURE	
PROJECT NO. TYPE NAME /LOCATION		FY 1996	FY 1997
69X7667	LIF-Omnibus Layaway and Redistribution of Government-Owned Equipment, Rock Island & Watervliet Arsenal	2.640	2.722
Provides funds for preservation of equipment and portions of plants which are no longer required for active production, but must be retained for future use. Also provides for plant clearance and preparation of equipment to be excessed.		2.833	2.946



BUDGET ITEM JUSTIFICATION SHEET										DATE
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE								INDUSTRIAL PREPAREDNESS (GC0075)
PROCUREMENT OF WPNS & TRKD CMBT VEHS / Weapons and Other Combat Vehicles		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	
QUANTITY		0	0	0	0	0	0	0	0	
COST (in millions)		5.3	5.1	5.8	5.7	6.2	6.1	6.6	6.6	
<p><b>DESCRIPTION:</b> This program provides funding to retain, protect, and maintain laidaway reserve industrial plants and equipment. Costs include grounds, utilities, fire and guard protection. Also includes funding for condition assessments of laidaway facilities and costs to rehabilitate equipment to useable condition.</p> <p><b>JUSTIFICATION:</b> The FY98 and FY99 request supports equipment and facilities at Rock Island &amp; Watervliet Arsenal. Funds also support some of the retention, maintenance and the cost for guard protection at the M-1 facilities which are not being utilized at the Detroit Arsenal Tank Plant.</p> <p>A summary listing of projects is attached.</p>										

Production Support and Facilities Projects			DATE		February 1997	
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE				
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles		INDUSTRIAL PREPAREDNESS (GC0075)				
PROJECT NO.	TYPE	NAME /LOCATION	FY 1996	FY 1997	FY 1998	FY 1999
G9X2100	Plant Equipment Storage, Seneca Army Depot Provides for storage and maintenance of equipment which is being retained at Seneca to meet future production requirements. It also provides for depot personnel who perform condition assessment reviews of equipment stored at Seneca and other Government and contractor storage sites.		1.049	0.115		
49X4290	Retention & Maintenance - Facilities TACOM, Rock Island & Watervliet Arsenal. Provides for storage of equipment for future production. Also provides funding to maintain grounds, buildings and provide fire/guard protection for inactive portions of tracked vehicle production facilities.		2.182	2.200	2.879	2.856
69X7670	Retention & Maintenance Plants and Equipment Watervliet & Rock Island Arsenal. Provides for overhead costs attributed to laidaway portions of the arsenals. Also funds storage and maintenance costs of equipment which has been laidaway for future production.		2.052	2.771	2.879	2.857

BUDGET ITEM JUSTIFICATION SHEET										DATE	February 1997
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE									
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Weapons and Other Combat Vehicles		SMALL ARMS (SOLDIER ENH PROG) (GC0076)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003			
QUANTITY	0	0	0	0	0	0	0	0		0	
COST (in millions)	2.4	5.8	4.2	5.6	6.5	6.9	2.5	2.0			

**DESCRIPTION:** This program provides small arms equipment for the soldier, a HMMWV Mount, Dual Mount and a Boresight for Aiming and Thermal Systems. The HMMWV Mount provides the soldier with a pedestal and a mount for firing the M249 Squad Automatic Weapon (SAW) and M60 Machine Gun from the M998 HMMWV and a mount for firing the M249 from the M1025/1026 HMMWV. The Dual Mount can be used in both the vehicular (M1025/1026 HMMWV) and ground mount application for the MK19 Grenade Machine Gun (GMG) and M2 Heavy Barrel Machine Gun. The Boresight Aiming & Thermal System provides the soldier with a small arms muzzle boresight with capabilities to boresight visible day, night image intensifiers and forward looking infrared fire control sighting systems and infrared laser aiming devices.

**JUSTIFICATION:** Certain applications of the M998 HMMWV require that weapons be displayed and be available quickly for enemy confrontation. The field has devised several non-standard and possibly unsafe methods of mounting weapons on the M998. This program will provide a standard, supportable weapon mount. Military Police and certain infantry units currently mount the M60 Machine Gun on the M1025/1026. As the M60 is replaced by the M249 Machine Gun the need to mount the M249 on the M1025/1026 HMMWV arises. The Dual Mount will be fielded to scout platoons enabling them to install or switch weapons quickly in the event one vehicle goes down. Additionally the system corrects the shortcomings of the current MK64 system allowing for bold and accurate traverse and elevation, further range (elevation) for the MK19, recoil attention of the M2 Machine Gun and capability for range card preparation. The U.S. Army will now have the capability to boresight forward looking infrared and image intensifier laser aiming devices.

WTCV Cost Analysis		A. APPN / BUDGET ACTIVITY TITLE/NO PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles				B. WEAPON SMALL ARMS (SOLDIER ENH PROG) (GC0076)				C. MANUFACTURER NAME				D. DATE February 1997	
WTCV Cost Elements		FY 96		FY 97		FY 98		FY 99							
ID	CD	TotalCost \$000	Qty Each	UnitCost \$	TotalCost \$000	Qty Each	UnitCost \$	TotalCost \$000	Qty Each	UnitCost \$	TotalCost \$000	Qty Each	UnitCost \$	TotalCost \$	UnitCost \$
1. Hardware															
MK93 MOD 1 DUAL MOUNT		1.600	776	2.062	1.600	866	1.848								
HMMWV M249 Mount M998 (Quantity)		0.197	120	1.642	1.254	660	1.900	1.362	660	2.063					
M1025/1026 (Quantity)		0.036	80	0.445	0.660	1320	0.500	0.717	1320	0.543	0.720	1320		0.545	
Boresight for Aiming & Thermal Sights											3.000	3000		1.000	
2. ESIP															
Dual Mount		0.225			0.275										
HMMWV M249 Mount		0.117			0.398			0.450			0.250		0.402		
Boresight for Aiming & Thermal Sights															
3. Testing															
Dual Mount		0.050			0.450			0.550			0.350		0.010		
HMMWV M249 Mount															
Boresight for Aiming & Thermal Sights															
4. Integrated Logistics Support															
Dual Mount		0.025			0.050										
HMMWV M249 Mount		0.047			0.153			0.189			0.100				
Material Release/Engineering Studies		0.053			0.794			0.680			0.366		0.075		
Boresight for Aiming & Thermal Sights															
5. Fielding															
Dual Mount					0.075						0.100				
HMMWV M249 Mount					0.130			0.230			0.225				
Boresight for Aiming & Thermal Sights															
<b>TOTAL</b>		<b>2.350</b>			<b>5.839</b>			<b>4.178</b>			<b>5.598</b>				

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE	February 1997
B. APPROPRIATION / BUDGET ACTIVITY										C. P-1 ITEM NOMENCLATURE	
PROCUREMENT OF WPNS & TRKD CMBT VEHS / 2 / Weapons and Other Combat Vehicles										SMALL ARMS (SOLDIER ENH PROG) (GC0076)	
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQ'D	IF YES W/A	
DUAL MOUNT/FY96	Fraser Maunufacturing Corp	C/FFP	ACALA	May-96	May-97	776	2827	Yes	Yes	Aug-95	
DUAL MOUNT/FY97	Fraser Maunufacturing Corp	C/FFP	ACALA	Apr-97	Jan-98	866	2827				
HMMWV M249 MOUNT/FY96 M6 Pedestal	Ramo Manufacture Inc. Nashville, Tn	C/FFP	ARDEC	Jul-96	Apr-97	120	1200	Yes	No		
M197 Mount	Nautic-Ali	C/FFP	ARDEC	Aug-96	Mar-97	200	445				
HMMWV M249 MOUNT/FY97 M6 Pedestal	Ramo Manufacture Inc. Nashville, Tn	C/FFP	ARDEC	May-97	Nov-97	660	1400				
M197 Mount	Nautic-Ali	C/FFP	ARDEC	May-97	Nov-97	1980	500				
HMMWV M249 MOUNT/FY98 M6 Pedestal	Ramo Manufacture Inc. Nashville, Tn	C/FFP	ARDEC	Jan-98	Jul-98	660	2063				
M197 Mount	Nautic-Ali	C/FFP	ARDEC	Jan-98	Jul-98	1980	543				
HMMWV M249 MOUNT/FY99 M6 Pedestal	Ramo Manufacture Inc. Nashville, Tn	C/FFP	ARDEC	Jan-99	Jul-99	0					
M197 Mount	Nautic-Ali	C/FFP	ARDEC	Jan-99	Jul-99	1320	545				
M998 HMMWV requires 1 M6 Pedestal and 1 M197 Mount M1025/1026 HMMWV requires 1 M197 Mount											
REMARKS:											

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										DATE
B. APPROPRIATION / BUDGET ACTIVITY										February 1997
C. P-1 ITEM NOMENCLATURE										
SMALL ARMS (SOLDIER ENH PROG) (GC0076)										
LINE ITEM / FISCAL YEAR	CONTRACTOR AND LOCATION	CONTRACT METHOD AND TYPE	CONTRACTED BY	AWARD DATE	DATE OF FIRST DELIVERY	QTY	UNIT COST \$000	SPECS AVAIL NOW	SPEC REV REQD	IF YES W/A
BORESIGHT for AIMING and THERMAL SYSTEMS (BATS)/FY99	TBS	C/FFP	TBS	Aug-99	May-00	3000	1000	No	No	
REMARKS:										

BUDGET ITEM JUSTIFICATION SHEET									
APPROPRIATION / BUDGET ACTIVITY		P-1 ITEM NOMENCLATURE					DATE		
PROCUREMENT OF WPNS & TRKD CMBT VEHS /Spares and Repair Parts							February 1997		
		SPARES AND REPAIR PARTS (WTCV) (GEO150)							
QUANTITY	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	
COST (in millions)	25.3	20.3	20.6	14.4	14.8	15.2	28.7	29.6	
<p>Description: Provides for procurement of spares to support initial fielding of new or modified end items.</p> <p>Justification: The funds in this account procure depot level repairable (DLRs) secondary items from the Supply Management, Army (SMA) revolving fund (formally Army Stock Fund). To provide initial support, funds are normally required in the same year that end items are fielded. Initial spares breakout:</p>									
<u>System</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>					
GE0161 M1A2	16.0	9.3	13.9	10.1					
GE0163 BFVS	5.2	9.3	.3	1.5					
GE0167 M109	2.4	1.4	3.7						
GE0171 IRV	1.6	.3	.8	1.1					
GE0173 C2V			.9	.9					
GE0177 HAB			.9	.9					
Total Initial Issue	25.3	20.3	20.6	14.4					
Total Replenishment and War Reserve									
Totals	25.3	20.3	20.6	14.4					

## PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

### APPROPRIATION LANGUAGE

For construction, procurement, production, and modification of weapons and tracked combat vehicles, equipment; including ordnance, spare parts, and accessories therefore; specialized equipment and training devices; expansion of public and private plants, and the land necessary therefore, for the foregoing purposes, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; and other expenses necessary for the foregoing purposes; \$1,065,707 in fiscal year 1998 to remain available for obligation until September 30, 2000 and \$1,475,106 in fiscal year 1999 to remain available for obligation until September 30, 2001.



**COMPARISON OF FY 1997 PROGRAM REQUIREMENTS  
AS REFLECTED IN THE FY 1997 BUDGET  
WITH THE FY1997 PROGRAM REQUIREMENTS AS  
SHOWN IN THE FY 1998/1999 BUDGET  
SUMMARY OF REQUIREMENTS (In Millions of Dollars)**

Appropriation	FY 1997 Requirements Per FY1997 Budget	FY 1997 Requirements Per FY1998/1999 Budget	Increase or (Decrease)
Procurement of Weapons and Tracked, Combat Vehicles, Army			
Activity 1 - Tracked Combat Vehicles	1,028	1,344	316
Activity 2 - Weapons & Other Combat Vehicles	54	104	50
Activity 3 - Spares and Repair Parts	20	20	0
Reimbursable Program	<u>179</u>	<u>179</u>	<u>0</u>
	1,281	1,647	366

**EXPLANATION BY ACTIVITY**

Activity 1 - Tracked Combat Vehicles. The increase resulted from Congressional adjustments to Bradley Base Sustainment (+\$100.6), FAASV (+\$29.8), Carrier Mods (+\$20), Bradley Mods (+\$35.5), Howitzer 155mm (+\$31.2), FAASV Pip to Fleet (+\$9.1), Improved Recovery Vehicle (+\$27.1), M1 Abrams Mods (+13.0), and Armored Earthmover (+\$51.0) as well as adjustments for Sections 8037 and 8138 of the FY1997 Appropriations Act (-\$1.7).

Activity 2 - Weapons and Other Combat Vehicles. The increase resulted from Congressional adjustments to Machine Gun, 556mm (+\$1.0), MK19-3 Grenade Launcher (+\$28.0), Med Machine Gun (+\$20.0), M16 Rifle (+\$1.0), and Carbine M4 (+\$1.0) as well as pro rata adjustments for Section 8138 of the FY 1997 Appropriations Act (-0.0).

Activity 3 - Spares and Repair Parts. Not applicable.

Reimbursable Program. Not applicable.

**COMPARISON OF FY 1997 PROGRAM REQUIREMENTS  
AS REFLECTED IN THE FY 1998/1999 BUDGET  
WITH THE FY1998 PROGRAM REQUIREMENTS AS  
SHOWN IN THE FY 1998/1999 BUDGET  
SUMMARY OF REQUIREMENTS (In Millions of Dollars)**

Appropriation Procurement of Weapons and Tracked Combat Vehicles, Army	FY 1997		FY 1998	
	Requirements Per FY1998/1999 Budget		Requirements Per FY1998/1999 Budget	Increase or (Decrease)
Activity 1 - Tracked Combat Vehicles	1,344		996	(348)
Activity 2 - Weapons and Other Combat Vehicles	104		49	(55)
Activity 3 - Spares and Repair Parts	20		21	1
Reimbursable Program	<u>179</u>		<u>146</u>	<u>(33)</u>
	1,647		1,212	(435)

**EXPLANATION BY ACTIVITY**

Activity 1 - Tracked Combat Vehicles. The decrease is associated with (1) the congressional adjustments (-\$317.2) in FY 1997 (depicted on the preceding page), (2) one-time funding in FY 1997 for the Life-of-Type buy for the Cummins engine (-\$30.0), (3) end of production funding for the Paladin and FAASV (-\$109.0), (4) LRIP funding for the Bradley Fire Support Team vehicle BFIST (-\$14.0) and increased funding in the Abrams Upgrade program for production cut-in for SEP, II Generation FLIR, and transfer of OMA resources for the workload at Anniston Army Depot that supports the Upgrade program.

Activity 2 - Weapons and Other Combat Vehicles. The decrease is associated with the congressional adjustments in FY 1997 (-\$51.0), other minor program reductions (-\$9.0), and initiation of the M119 Howitzer modification program (+\$5.0).

Activity 3 - Spares and Repair Parts. Not applicable.

Reimbursable Program. The decrease is a result of an expected decrease in the amount of projected FMS sales.

**COMPARISON OF FY 1998 PROGRAM REQUIREMENTS  
AS REFLECTED IN THE FY 1998/1999 BUDGET  
WITH THE FY1999 PROGRAM REQUIREMENTS AS  
SHOWN IN THE FY 1998/1999 BUDGET  
SUMMARY OF REQUIREMENTS (in Millions of Dollars)**

Appropriation Procurement of Weapons and Tracked Combat Vehicles, Army	FY 1998 Requirements Per FY1998/1999 Budget	FY 1999 Requirements Per FY1998/1999 Budget	Increase or (Decrease)
Activity 1 - Tracked Combat Vehicles	996	1,379	383
Activity 2 - Weapons and Other Combat Vehicles	49	81	32
Activity 3 - Spares and Repair Parts	21	14	(7)
Reimbursable Program	<u>146</u>	<u>128</u>	<u>(18)</u>
	1,212	1,602	390

**EXPLANATION BY ACTIVITY**

Activity 1 - Tracked Combat Vehicles. The increase is the result of a ramp-up of production quantities for the Command and Control Vehicle (\$32.0) and the Bradley Base sustainment (\$217.0); and a ramp in production in the Abrams Upgrade Program for the System Enhancement Program (SEP) (\$99.0); as well as programmatic increase in the Carrier modification program (\$14.0), the Improved Recovery Vehicle (\$12.0), and the Heavy Assault Bridge (\$10.0).

Activity 2 - Weapons and Other Combat Vehicles. The increase is associated with increased procurement quantities for the M16 Rifle (\$4.1), the MK19-3 Grenade Launcher (\$13.1), the Armor Machine Gun (\$7.0), the M4 Carbine (\$4.5), and modifications for the Carbine (\$3.2).

Activity 3 - Spares and Repair Parts. The decrease is associated with a reduced requirement for Abrams and Paladin Initial spares.

Reimbursable Program. The decrease is associated with a reduction in anticipated FMS cases.